Bradley Heights Apartments A 236-Unit Apartment Development Puyallup, Washington

PROJECT TEAM

Owner/Developer

Architect:

Bradley Heights SS LLC 614 Boylston Ave E Seattle, WA 98102 (206) 557-7236

Milbrandt Architects, Inc., P.S. 25 Central Way, Suite 210 Kirkland, WA 98033 (425) 454-7130

Solutions 4 Structure, Inc

Azure Green Consultants

11605 135th St Ct E

(253) 268-2923

409 East Pioneer

(253) 770-3144

Nature By Design

(206) 364-3343

Puyallup, WA 98372

Puyallup, WA 98374

Structural Engineer

Civil Engineer

Landscape Architect

1320 Alameda Avenue, Suite B

MEP Engineer

Fircrest, WA 98466 (253) 460-6067 Robison Engineering Inc. 19401 40th Avenue W, Suite 302 Lynnwood, WA 98036

PROJECT INFORMATION Site Address:

202 27th Ave SE, Puyallup, WA 98374

Construction of 236 wood framed apartment units in eight Project Description: stacked flat buildings along with a leasing amenity building. 7.785 acres (+/- 339,107 SQ. FT.) Site Area: Tax Parcel Number:1 419036006 Occupancy Type: All Apartment Buildings are R2 occupancy All Apartment Buildings are Type V-B construction Type of Construction with NFPA 13R automatic sprinklers 2018 International Building Code Applicable Codes: 2018 Uniform Plumbing Code 2018 Washington State Energy Code 2018 International Mechanical code

2018 International Fire Code 2022 National Electrical Code ICC/ANSI A117.1-2009 Standard Washington State Amendments as modified and adopted by the local jurisdiction.

RATED ASSEMBLIES

Rated assemblies shall be provided in accordance with	IBC section 420	
Assembly	Fire Rating	Detail
Common walls separating dwelling units:	1-hour	4/D1
Exterior walls:	non-rated	1/D1
Interior bearing walls:	non-rated	2/D1
Interior non-bearing walls:	non-rated	2/D1
Corridor-to-unit walls:	1-hour	3/D1
Floor/ceiling:	1-hour	13/D1
Roof/ceiling:	1-hour	17/D1
Penetrations (firestopping)	Per situation	17/D8
\bigvee		D9
Stair fire barrier wall:	1-hour @ 3-story 2-hour @ 4-story	3/D1 7/D1

Fire Alarm systems and smoke alarms shall be provided in accordance with IBC section 420.5 Refer to unit plan sheets for smoke detector locations and requirements.

GENERAL NOTES

- 1. Comply with 2018 IBC and all applicable codes and ordinances of the local jurisdiction and the State of Washington. 2. Do not scale drawings.
- 3. Verify all rough-in dimensions for equipment provided in this contract or by All rough-ins shall be approved and fireblocking shall be installed prior to
- framing inspection. 4. Verify size and location of and provide all openings through floors and walls,
- furring, anchors, inserts, rough bucks and backing for surface mounted items. 5. Provide furring as required to conceal mechanical and electrical work in all
- finished areas. 6. All swinging doors not located by dimensions on plans, interior elevations, or
- details shall be 3" from face of stud to edge of rough openings or centered between room partitions as shown. 7. Plans are drawn assuming the following rough openings:
 - Swinging doors: Nominal size +2". Bi-Fold doors: Nominal size +1-1/2". Bi-Pass doors: Nominal size +0".
 - Windows: Nominal size +0".
 - Sliding glass doors: Nominal size +0".
- 8. Fill where required with earth free from organic material. Compact fill in 12" layers maximum.
- 9. "Finish Floor" refers to the top of concrete slab or top of wood floor sheathing.
- 10. Exterior walls shall be 2x6 studs at 16" o.c. and interior walls shall be 2x4 studs at 16" o.c., unless noted otherwise.
- 11. Unless otherwise noted, plan dimensions are to face of studs and face of
- concrete walls. 12. Refer to interior elevations for cabinet and counter lengths, dimensions, countertop materials and detail reference. Verify all existing dimensions
- before installation. 13. Provide caulking between sole plates and subfloor and between rim joists at both top plate and subfloor.
- 14. Hydrants shall be in service prior to start of framing. 15. Through penetrations and membrane penetrations of rated wall or floor/ceiling assembly will require firestopping per 2018 IBC Section 714. See detail sheets for diagram of specifics.
- 16. Shall be no asbestos used on this project. 17. All Tub-Shower valves installed shall conform to UPC 408.3 & ASSE 1016
- or ASME A112.18.1 18. Milbrandt Architects is not responsible for construction means, methods,
- techniques or procedures, or for the safety precautions and programs in connection with the work, and is not responsible for the failure of any contractor or subcontractor to carry out the work in accordance with the various contract documents and or governing jurisdiction, regardless of what is shown on these drawings.

FEDERALLY DECLARED SAFE HARBOR

Declared Safe Harbor: HUD Fair Housing Accessibility Guidelines published on March 6, 1991 and the Supplemental Notice to Fair Housing Accessibility Guidelines: Questions and Answers about the Guidelines, published on June 28, 1994.

ACCESSIBILITY

Design is based on the 2018 IBC Chapter 11 which has been amended by the State of Washington, & 2009 ICC A117.1 Accessible & Useable Buildings & Facilities. None of the buildings are an elevator type building.

There are a total of 84 one-story dwelling units at ground level. All ground floor units are 1 or 2-bed unit designs. Provided total 84 accessible units: 12 Type A and 72 Type B units. Type A units meet the requirements for Type B units.

The 12 Type A units are proportioned as follows (see Site Plan): • (7) 1-Bed units (1 BR) in each of Buildings A, C, D, E, F & G- for a total of 7.

• (5) 2-Bed units (2 BR) in Buildings A, D, E, F & G - for a total of 5.

Parking: Section 1106.2 IBC requires 2% of each proposed parking stall type to be accessible. Of the 354 total open stalls, 12 are accessible, including 5 van stalls. Each accessible open stall is indicated by the wheelchair symbol on the site plan and further designated by the detail symbols 10/A3.

VENTILATION NOTES

- 1. Design Criteria: 2018 International Mechanical Code with Washington State Amendments.
- 2. System Type: Balanced whole house fan system with energy recovery
- ventilator
- 3. Use: Group R occupancy. 4. Specifics: See mechanical plans by others.

Bradley Heights SS LLC

ENERGY NOTES

ENERGY NOTES		
Reference: 2018 WSEC		
Chapter 4 using climate	zone catagory 5 &	marine 4 for
all calculations.		
All residential units shall comply with		
Including but not limited to the follow		Associated Notes/Details
Code Requiremen		Showing Compliance
Window U-Factor	.24 or better	See Insul. Notes on sheets U1,
~ !!!	- 10	U2, U3, U4, U5
Ceiling R-Value	R-49	13 / D1
Wood Frame Wall R-Value	R-21 int.	1, 3, 4, 7 & 8 / D1
Floor R-Value	R-30	N/A
Slab R-Value & Depth	R-10, 2ft	1, 3, 5 & 6/ D2
"int." (intermediate framing) de insulated with a min. of R-10 (s		ming 16" o.c. with headers
		f the electrical distribution panel listing
		eakage test results, building envelope air
leakage test results, types and efficien	cies of heating, co	oling and service water heating equipment
per R401.3		
All insulation shall comply with table		
Hot water piping shall be insulated to		
Water heaters in unheated spaces, or o		shall be placed on minimum
of R-10 incompressible insulated surf		
Mechanical ventilation shall be provid		1. 1
A minimum of 90% of all permanently	y installed lamps in	n lighting fixtures shall be
high-efficacy lamps per R404.1		
See Insulation Notes on the Unit Plan		
Energy Credits used (see 2018 WSEC		
Fuel Normalization Credit System Typ		0.0 CREDITS
Option 1.1 Efficient Building Envelo	ope	0.5 CREDITS
Option 2.1 Air Leakage Control	Deres Creations	1.0 CREDITS
Option 3.4 Ductless Mini-Split Heat Option 7.1 Appliance Package	Pump System	2.0 CREDITS 1.5 CREDITS
TOTAL PROVIDED		5.0 CREDITS
Revise to match 2018 Pre		y Code
Compliance report. Page	A	

FIRE SYSTEMS

Buildings shall have an NFPA 13R sprinkler system installed throughout per 2018 IBC Section 903.3.1.2 which shall include a notification appliance which is activated upon sprinkler flow. Any alarms, bells or lights required due to the design of the sprinkler system or integral with the sprinkler system shall be considered part of the sprinkler system. The sprinkler system design, therefore, needs to include any and all integrated alarms.

Report selected 1.7 credit; plans show 1.1 credit

Plans and specifications for sprinklers shall be submitted to the city of Puyallup as a separate permit for review and approval before installation.

DESIGN LOADS See structural notes. Sheet S1.0

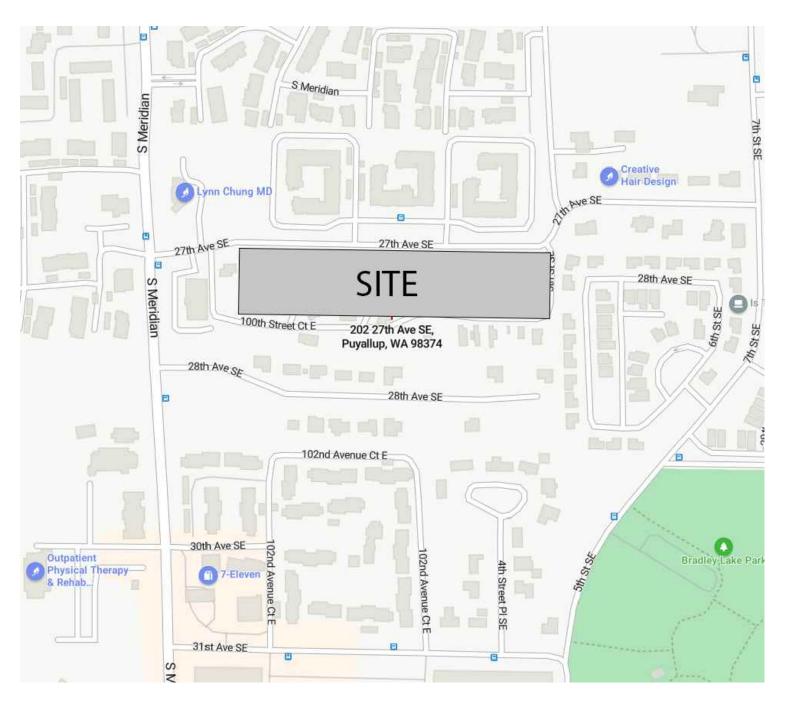
DEFERRED SUBMITTALS

Shop drawings and calculations are required for:

1. Firestopping details. Firestopping methods and materials shall be determined by the Contractor except where details or notes are indicated in these drawings. Firestopping locations are indicated in part by detail sheet D9. Contractor shall submit UL assembly details and product cuts of all relevant situations to the Architect for conformance to the building design. Upon the Architect's approval, they shall be submitted to the Building Official for approval. Firestopping shall not be installed without City approval.

SEPARATE PERMITS

The following required permits will be submitted separately: 1. Automatic Fire Sprinkler System (See fire systems note, this sheet). 2. Fire Alarm System.







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Bradley Heights Apartments

> Puyallup, Wa

Timberlane Partners

Revisions No. Date Description /1 8-30-24 Owner Changes/ Permit Corrections

Initial Publish Date: Date Plotted: 2-18-25 Job No.: Drawn By: 23-06 TMK/HDM/APT Sheet No.:

Α

Bradley Heights Building Areas

	Unit																						\frown	\sim	\sim	\sim	\searrow					(\vee \vee \vee	Qther	Unheated									
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Floor Level	1-Bed End	d (SF)	(SF)	End-A	lt (SF) (S	iF)	Int-1	(SF)	(SI	F) I	Int-2	(SF)	(SF)	Int-Alt-1	(SF)	(SF)	Int-Alt-	-2 (SF)	(SF)	Int-Al	l t-3 (SF) (SF)	Int-Alt	t-4 (SF	F) (SF)	2-Bed	(SF)	(SF)	Alt	(SF)	(SF)	2-Ве	ed-2 (SF)) (SF	//		(SF) St	air 2 Area (,		. ,				
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2nd	2	1424	134					2	1368	12	22	2	1368	142													1	1019	66	1	1019	60					2	350	2 478	6198	3 1:	352	7550	(Plus 3358 S	F See Shee	≠et
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3rd																											2		132	2	1960	120						239	1 239			'30	4728	Basement)		
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3rd								4	2736			4	2736	284													1	4076	264									1434		9548		226	11774	35084	A4	
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All buildings are Type V-B construction; all occupancies are R-2; all have NFPA 13R sprinkler systems throughout.

a. Misc. Areas include SF of sprinkler riser rooms and basement storage rooms. b. Unheated Areas include SF of Decks, Patios, storage & sprinkler rooms.

c. Base Area allowed is 7000SF per floor for Type V-B construction (Table 506.2). See area increase diagrams on sheet A4 for total area allowed.

Unit Area Summary

Unit		Unit SF	Patio/Deck SF	
1 Bed End	1BR/1BA	712	67	
1 Bed End Alt	1BR/1BA	625	78	
1 Bed Int	1BR/1BA	684	61	
1 Bed Int 2	1BR/1BA	684	71	
2 Bed	2BR/2BA	1019	66	
2 Bed Alt	2BR/2BA	1019	60	
2 Bed Alt (3rd Floor)	2BR/2BA	980	60	
2 Bed-2	2BR/2BA	1115 [°]	62	1
1-Bed-Int-Alt-1	1BR/1BA	634	74	
1-Bed-Int-Alt-2	1BR/1BA	634	86	
1-Bed-Int-Alt-3	1BŘ/1BĂ	ັ795ັ	57	
1-Bed-Int-Alt-4	1BR/1BA	795	59	Λ
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SINGLE EXITS Per IBC 1006.3.2 section 5, Individual single-story or multistory dwelling units shall be permitted to have a single exit or access to a single exit provided that the dwelling unit has a maximum occupant load of 20, is equipped throughout with an automatic sprinkler system in accordance with section 903.3.1.1 or 903.3.1.2, is provided with emergency escape and rescue openings in accordance with section 1030, and the common path of egress travel does not exceed 125'.

LIST OF DRAWINGS

	A1	Build
	A2	Site I
	A3	Site S
	A4	Area
	B11	Build
	U1	1-Be
	U2	1-Be
	U4	2-Be
	U5	2-Be
	U6	Inter
	1-Bed-I	nt-Alt
(Ú9 🗸	Inter
	U11	Acce
	U12	Stair
7)	U14	Door
	\checkmark	\frown
	F12	Build
	F13	Build
	R7	Build
	E14	Build
7	E15	Build
/	F 1 F 1	

E15.1	Build
E16	Build
S1.0	Stru
S1.1	Stru
S1.2	Shea
S1.3	Shea
S2.17	Four
S2.18	3rd
S3.0	Deta
S3.1	Deta
S4.0	Deta
S4.1	Deta
S5.0	Deta
S5.1	Deta
D1	Deta

Bradley Heights Apartments Building G Puyallup, Washington

Bradley Heights SS LLC

A Cover Sheet A1 Building Areas and Statistics e Plan Standards Increase Diagram

ding G - Building Floor Plans

ed-Int Unit - Basement & 1st Level Floor Plans ed-Int Unit - 2nd & 3rd Level Floor Plans ed Unit - Basement & 1st Level Floor Plans ed Unit - 2nd & 3rd Level Floor Plans erior Elevations - 1-Bed-Int-1, 1-Bed-Int-2, -It-1, & 1-Bed-Int-Alt-2 erior Elevations - 2-Bed & 2-Bed-Alt essibility Standards ir 1 - Floor Plans r Schedule lding G - Partial Architctural Foundation Plan ding G - Partial Architectural Foundation Plan lding G - Roof Plan lding G - Exterior Elevations Iding G - Exterior Elevations & Building Sections Iding G - Building Section ding Glazing Diagram - Building G uctural Notes - Building G

uctural Notes & Tables - Building G

ear Wall Notes - Building G ear Wall Notes - Building G

Indation & 2nd Floor Framing Plans - Building G

Floor & Roof Framing Plans - Building G

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- Details

D2 Details D3 Details D4 Details D5 Details D6 Details D7 Details Details ∆∕D8 ∫D9 Details (BE1 Building Envelope Details BE2 Building Envelope Details BE3 Building Envelope Details BE4 Building Envelope Details BE5 Building Envelope Details M0.0 Legend, General Notes & Drawing Index M0.1 Project Notes M0.2 Tables & Calculations M0.3 Mechanical Schedules & WSEC Forms M2.0 Building G - HVAC Plans M3.0 HVAC Enlarged Plan M3.1 HVAC Enlarged Plan E0.00 Electrical Cover Sheet E0.01 Electrical Cover Sheet E0.10 Power Site Plan E0.11 Power Site Plan E0.12 Lighting Site Plan E0.13 Lighting Site Plan E1.01 1st Floor Lighting Plan E1.02 2nd & 3rd Floor Lighting Plan E3.00 1st & 2nd Floor Power Plans E3.01 3rd Floor & Roof Power Plans E5.00 Unit Plan Notes E5.01 Unit Electrical Plans E5.02 Unit Electrical Plans E6.00 One-Line Diagram & Notes E6.01 Panel Schedule P0G.00 Plumbing - Legend, General Notes & Drawing Index P0G.01 Plumbing Notes & Tables P0G.02 Plumbing Calculations P0G.03 Plumbing Schedules P2G.00 Underslab Waste & Vent Plan P2G.01 1st Floor Waste & Vent Plan P2G.02 2nd Floor Waste & Vent Plan

P2G.03 3rd Floor Waste & Vent Plan P3G.01 1st Floor Plumbing Supply Plan

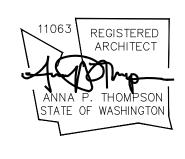
P3G.02 2nd Floor Plumbing Supply Plan

P3G.03 3rd Floor Plumbing Supply Plan

P7G.00 Details P7G.01 Details



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Bradley Heights Apartments

Puyallup, Wa

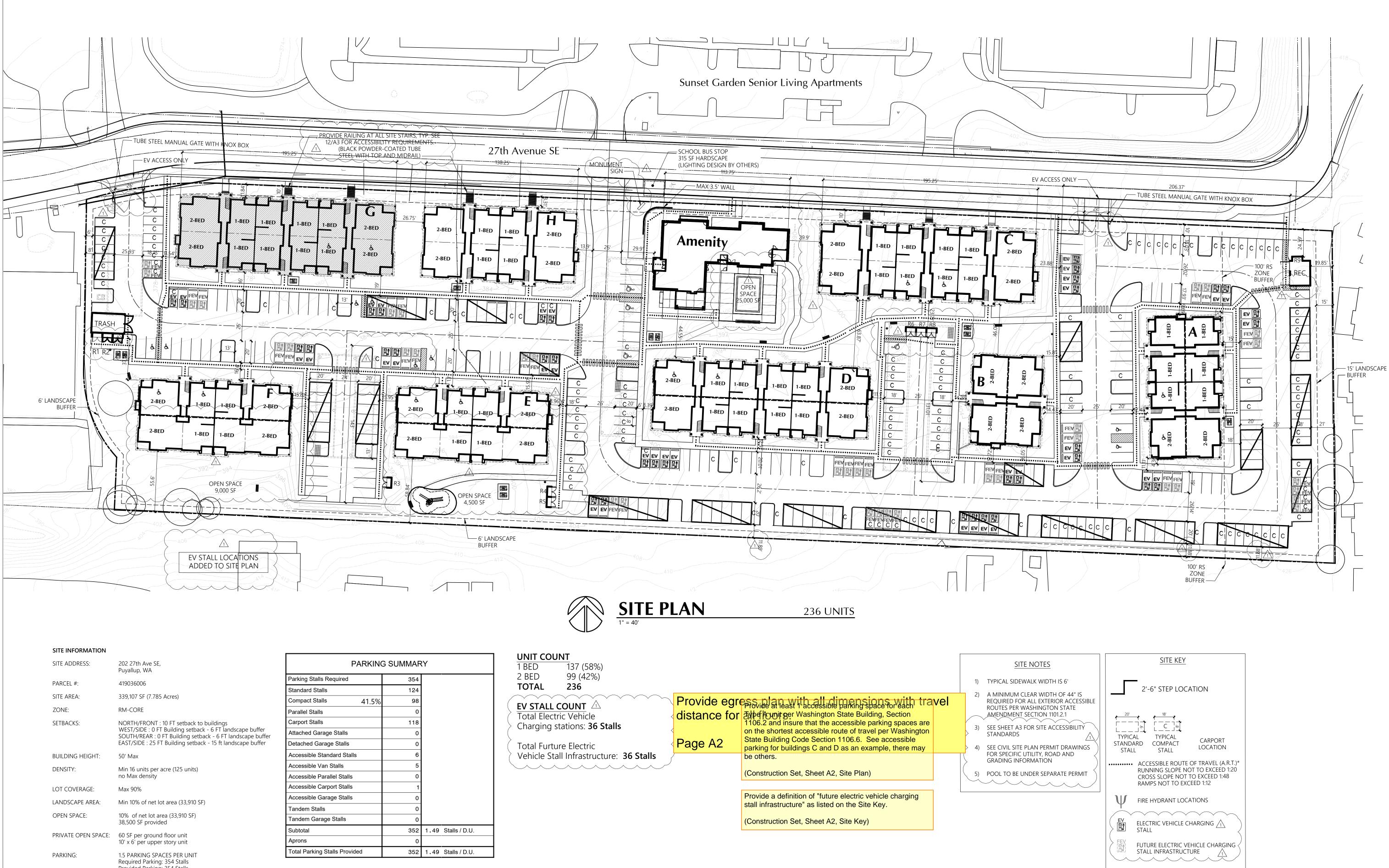
Timberlane Partners

Revisions No. Date Description **8-30-24** Owner Changes/

Permit Corrections

Initial Publish Date: Date Plotted: 12-20-24 Job No.: Drawn By: 23-06 TMK/HDM/APT Sheet No.:



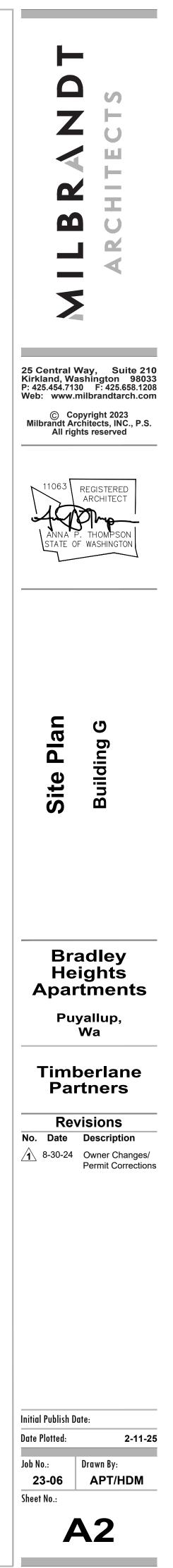


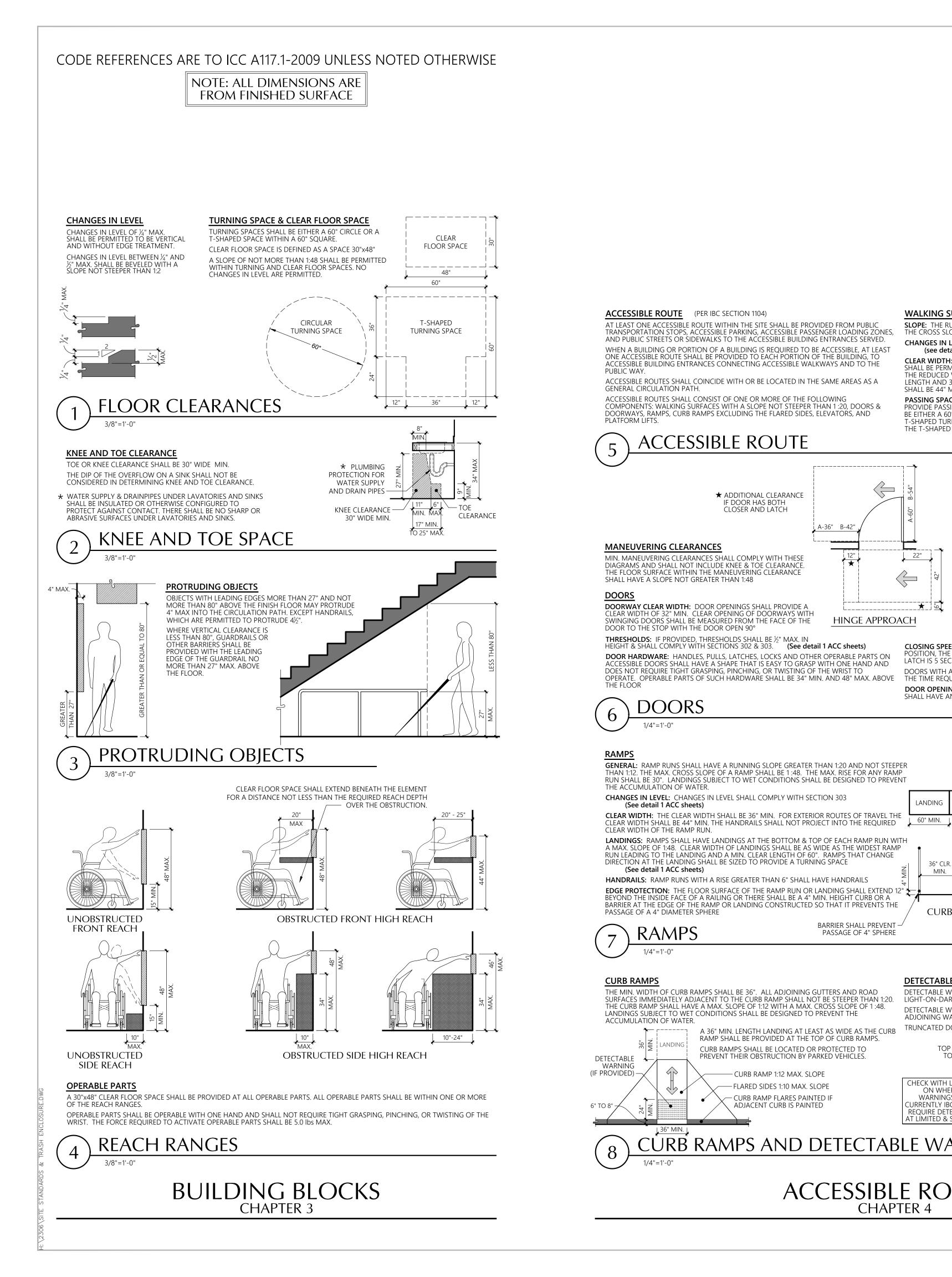
Required Parking: 354 Stalls Provided Parking: 354 Stalls

EASEMENTS:

no existing easements on site

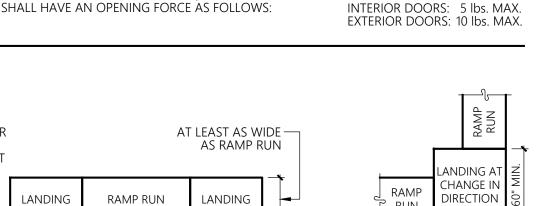
PARKIN	G SUMMAF	RY
Parking Stalls Required	354	
Standard Stalls	124	
Compact Stalls 41.5%	98	
Parallel Stalls	0	
Carport Stalls	118	
Attached Garage Stalls	0	
Detached Garage Stalls	0	
Accessible Standard Stalls	6	
Accessible Van Stalls	5	
Accessible Parallel Stalls	0	
Accessible Carport Stalls	1	
Accessible Garage Stalls	0	
Tandem Stalls	0	
Tandem Garage Stalls	0	
Subtotal	352	1.49 Stalls / D.U.
Aprons	0	
Total Parking Stalls Provided	352	1.49 Stalls / D.U.





HANDRAILS: RAMP RUNS WITH A RISE GREATER THAN 6" SHALL HAVE HANDRAILS MIN MIN. **EDGE PROTECTION:** THE FLOOR SURFACE OF THE RAMP RUN OR LANDING SHALL EXTEND 12" BEYOND THE INSIDE FACE OF A RAILING OR THERE SHALL BE A 4" MIN. HEIGHT CURB OR A EXTENDED BARRIER AT THE EDGE OF THE RAMP OR LANDING CONSTRUCTED SO THAT IT PREVENTS THE PASSAGE OF A 4" DIAMETER SPHERE CURB OR BARRIER FLOOR SURFACE RAMP EDGE PROTECTION BARRIER SHALL PREVENT -RAMPS PASSAGE OF 4" SPHERE 1/4"=1'-0" CURB RAMPS DETECTABLE WARNINGS THE MIN. WIDTH OF CURB RAMPS SHALL BE 36". ALL ADJOINING GUTTERS AND ROAD DETECTABLE WARNINGS SHALL CONTE SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 1:20. LIGHT-ON-DARK OR DARK-ON-LIGHT. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJACENT SURFACES, EITHER THE CURB RAMP SHALL HAVE A MAX. SLOPE OF 1:12 WITH A MAX. CROSS SLOPE OF 1 :48. DETECTABLE WARNING SURFACES IN INTERIOR LOCATIONS SHALL DIFFER FROM LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT THE ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT ACCUMULATION OF WATER. TRUNCATED DOMES SHALL BE ALIGNED IN A SQUARE PATTERN. A 36" MIN. LENGTH LANDING AT LEAST AS WIDE AS THE CURB RAMP SHALL BE PROVIDED AT THE TOP OF CURB RAMPS. CENTER-TO-CENTER TOP DIAMETER 50% MIN. CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES TO 65% MAX. OF THE -SPACING 1.6" MIN. BASE DIAMETER ≻TO 2.4" MAX. CURB RAMP 1:12 MAX. SLOPE CHECK WITH LOCAL JURISDICTION — FLARED SIDES 1:10 MAX. SLOPE ON WHERE DETECTABLE WARNINGS ARE REQUIRED. — CURB RAMP FLARES PAINTED II URRENTLY IBC & ANSI A117.1 ONLY ADJACENT CURB IS PAINTED BASE DIAMETER **REOUIRE DETECTABLE WARNINGS** AT LIMITED & SPECIFIC LOCATIONS. HEIGH .9" MIN. TO 1.4" MAX. CURB RAMPS AND DETECTABLE WARNINGS ACCESSIBLE ROUTES **CHAPTER 4**

RAMPS GENERAL: RAMP RUNS SHALL HAVE A RUNNING SLOPE GREATER THAN 1:20 AND NOT STEEPER THAN 1:12. THE MAX. CROSS SLOPE OF A RAMP SHALL BE 1:48. THE MAX. RISE FOR ANY RAMP RUN SHALL BE 30". LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT THE ACCUMULATION OF WATER. CHANGES IN LEVEL: CHANGES IN LEVEL SHALL COMPLY WITH SECTION 303 (See detail 1 ACC sheets)



EXTENDED SURFACE -

AT SAME LEVEL AS RAMP SURFACE

RUN

60" MIN.

CLOSING SPEED: DOORS WITH CLOSERS SHALL BE ADJUSTED SO THAT FROM A 90° OPEN

DOORS WITH A SPRING HINGE SHALL BE ADJUSTED SO THAT FROM A 70° OPEN POSITION

DOOR OPENING FORCE: HINGED, SLIDING OR FOLDING DOORS OTHER THAN FIRE DOORS

THE TIME REQUIRED TO MOVE THE DOOR TO A CLOSED POSITION IS 1.5 SECONDS MIN.

_____60" MIN.

POSITION, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12° FROM THE

OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MIN. AND 48" MAX. ABOVE

DOORS

1/4''=1'-0

(See detail 1 ACC sheets)

THRESHOLDS: IF PROVIDED, THRESHOLDS SHALL BE 1/3" MAX. IN HEIGHT & SHALL COMPLY WITH SECTIONS 302 & 303. (See detail 1 ACC sheets) DOOR HARDWARE: HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON SIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO

SWINGING DOORS SHALL BE MEASURED FROM THE FACE OF THE DOOR TO THE STOP WITH THE DOOR OPEN 90°

SHALL HAVE A SLOPE NOT GREATER THAN 1:48 **DOORWAY CLEAR WIDTH:** DOOR OPENINGS SHALL PROVIDE A CLEAR WIDTH OF 32" MIN. CLEAR OPENING OF DOORWAYS WITH

MANEUVERING CLEARANCES MIN. MANEUVERING CLEARANCES SHALL COMPLY WITH THESE DIAGRAMS AND SHALL NOT INCLUDE KNEE & TOE CLEARANCE. THE FLOOR SURFACE WITHIN THE MANEUVERING CLEARANCE

★ ADDITIONAL CLEARANCE IF DOOR HAS BOTH CLOSER AND LATCH

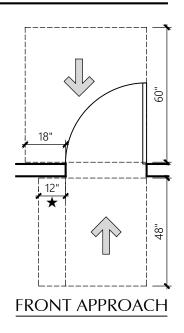
LATCH IS 5 SECONDS MIN.

36" CLR.

MIN.

HINGE APPROACH

24" \Longrightarrow LATCH APPROACH



PLATFORM LIFTS. CESSIBLE ROUTE

ACCESSIBLE ROUTES SHALL COINCIDE WITH OR BE LOCATED IN THE SAME AREAS AS A GENERAL CIRCULATION PATH. ACCESSIBLE ROUTES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING COMPONENTS: WALKING SURFACES WITH A SLOPE NOT STEEPER THAN 1:20, DOORS & DOORWAYS, RAMPS, CURB RAMPS EXCLUDING THE FLARED SIDES, ELEVATORS, AND

ACCESSIBLE ROUTE (PER IBC SECTION 1104) AT LEAST ONE ACCESSIBLE ROUTE WITHIN THE SITE SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING, ACCESSIBLE PASSENGER LOADING ZONES, AND PUBLIC STREETS OR SIDEWALKS TO THE ACCESSIBLE BUILDING ENTRANCES SERVED. WHEN A BUILDING OR PORTION OF A BUILDING IS REQUIRED TO BE ACCESSIBLE, AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED TO EACH PORTION OF THE BUILDING, TO ACCESSIBLE BUILDING ENTRANCES CONNECTING ACCESSIBLE WALKWAYS AND TO THE

> SHALL BE 44" MIN. PASSING SPACE: AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN 60" SHALL PROVIDE PASSING SPACES AT MAXIMUM INTERVALS OF 200 FEET. PASSING SPACES SHALL BE EITHER A 60"x60" MIN. SPACE, OR AN INTERSECTION OF WALKING SURFACES WITH A -SHAPED TURNING SPACE (See detail 1 ACC sheets), PROVIDED THE BASE AND ARMS OF THE T-SHAPED SPACE EXTEND 48" MIN. BEYOND THE INTERSECTION.

(see detail 1 ACC sheets) CLEAR WIDTH: THE WIDTH OF AN ACCESSIBLE ROUTE SHALL BE 36" MIN. THE CLEAR WIDTH SHALL BE PERMITTED TO BE REDUCED TO 32" MIN. FOR A LENGTH OF 24" MAX. PROVIDED THE REDUCED WIDTH SEGMENTS ARE SEPARATED BY SEGMENTS THAT ARE 48" MIN. IN LENGTH AND 36" MIN. IN WIDTH. FOR EXTERIOR ROUTES OF TRAVEL, THE CLEAR WIDTH

WALKING SURFACES SLOPE: THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48. CHANGES IN LEVEL: CHANGES IN LEVEL SHALL COMPLY WITH SECTION 303

ACCESSIBLE PARKING SPACES

LOCATION: PER IBC SECTION 1106.6, ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE. WHERE PRACTICAL THE ACCESSIBLE ROUTE SHALL NOT CROSS LANES OF TRAFFIC. WHERE CROSSING TRAFFIC LANES IS NECESSARY, THE ROUTE SHALL BE DESIGNATED AND MARKED AS A CROSSWALK.

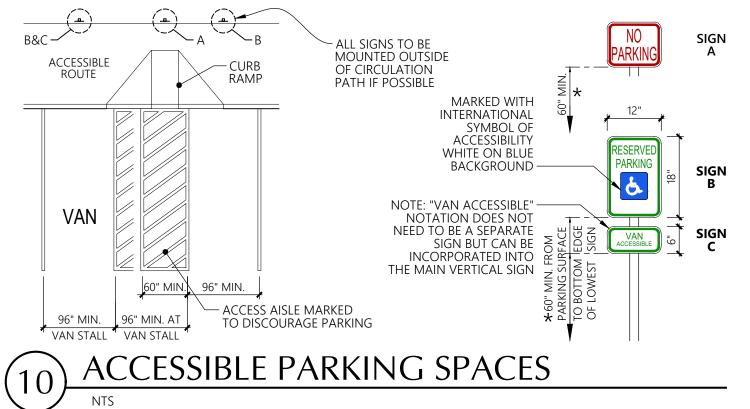
PARKING STALL SIZE: CAR AND VAN PARKING SPACES SHALL BE 96" MIN. WIDTH. ACCESS AISLES SERVING CAR PARKING SPACES SHALL BE 60" MIN. IN WIDTH. ACCESS AISLES SERVING VAN PARKING SPACES SHALL BE 96" MIN. IN WIDTH. ACCESS AISLE: CAR AND VAN PARKING SPACES SHALL HAVE AN ADJACENT ACCESS AISLE ON EITHER SIDE OF THE PARKING SPACE. THE ACCESS AISLES SHALL BE 60" MIN. IN WIDTH FOR CAR STALLS AND 96" MIN. IN WIDTH FOR VAN STALLS AND EXTEND THE FULL LENGTH OF AND AT THE SAME LEVEL AS THE PARKING SPACE THEY SERVE. ACCESS AISLES SHALL BE MARKED SO AS TO DISCOURAGE PARKING IN THEM

FLOOR SURFACES: PARKING STALLS & ADJACENT ACCESS AISLES SHALL HAVE A SURFACE SLOPE NOT GREATER THAN 1:48. VERTICAL CLEARANCE: ACCESSIBLE VAN PARKING STALLS, ACCESS AISLES SERVING THEM, & VEHICULAR ROUTES SERVING THE VAN SPACE SHALL HAVE A VERTICAL CLEARANCE OF 98" MIN.

IDENTIFICATION: ACCESSIBLE PARKING SPACES SHALL BE INDICATED BY A VERTICAL SIGN. SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY THAT IS WHITE WITH A BLUE BACKGROUND. SIGNS IDENTIFYING VAN PARKING SPACES SHALL CONTAIN THE DESIGNATION "VAN ACCESSIBLE". A VERTICAL "NO PARKING" SIGN SHALL BE ERECTED AT THE HEAD OF EACH ACCESS AISLE LOCATED ADJACENT TO AN ACCESSIBLE PARKING SPACE. THESE SIGNS MAY INCLUDE ADDITIONAL LANGUAGE SUCH AS, BUT NOT LIMITED TO, AN INDICATION OF THE AMOUNT OF THE MONETARY PENALTY FOR PARKING IN THE SPACE WITHOUT A VALID PERMIT OR THE ACCESS AISLE. THESE SIGNS SHALL BE 60" MIN. ABOVE THE FLOOR OF THE PARKING SPACE MEASURED TO THE BOTTOM OF THE SIGN.

SIGN MOUNTING: SIGNS ARE TO BE MOUNTED COMPLETELY OUTSIDE OF CIRCULATION PATHS WHEREVER POSSIBLE WHERE MOUNTING IS NECESSARY WITHIN A PATH OF CIRCULATION, SIGNS SHALL MEET THE REQUIREMENTS OF IBC SECTION 1003.3 FOR PROTRUDING OBJECTS AND POST-MOUNTED OBJECTS.

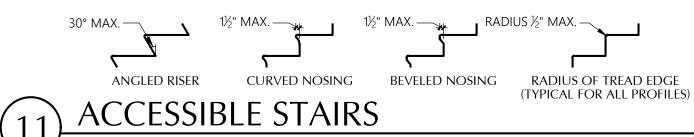
* SIGNS MOUNTED ON POSTS WITHIN A CIRCULATION PATH SHALL BE INSTALLED WITH A VERTICAL CLEARANCE OF 80" MIN. FROM THE LOWEST POINT OF THE SIGN(S) TO THE WALKING SURFACE. IF A POST MOUNTED SIGN IS SIZED SUCH THAT IT PROTRUDES 4" MAX. FROM THE MOUNTING POST, THEN THE MOUNTING HEIGHT SHALL BE MOUNTED AT 60" MIN. ABOVE THE PARKING SURFACE SO AS TO NOT BE OBSTRUCTED BY ANY PARKED VEHICLES.



ACCESSIBLE STAIR REQUIREMENTS

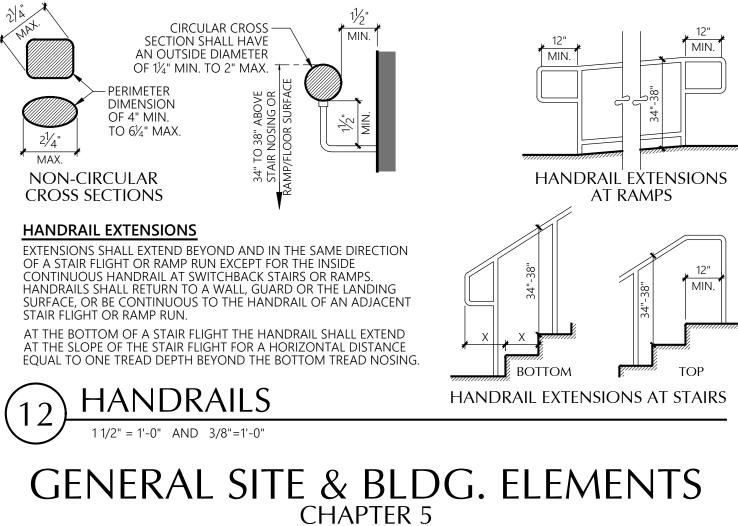
ALL STEPS ON A FLIGHT OF STAIRS SHALL HAVE UNIFORM RISER HEIGHTS AND UNIFORM TREAD DEPTHS. RISERS SHALL BE 4" HIGH MIN. AND 7" HIGH MAX. TREADS SHALL BE 11" DEEP MIN. OPEN RISERS ARE NOT PERMITTED & TREADS SHALL HAVE A SLOPE NOT MORE THAN 1:48.

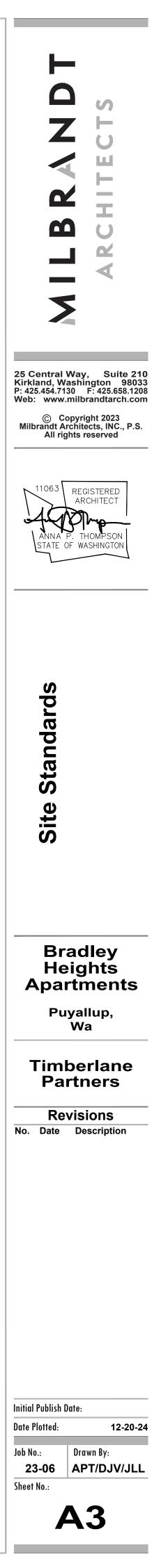
STAIR NOSINGS SHALL CONFORM TO THE DIAGRAMS SHOWN HERE AND THE LEADING 2" OF THE TREAD SHALL HAVE VISUAL CONTRAST OF DARK-ON-LIGHT OR LIGHT-ON-DARK FROM THE REMAINDER OF THE TREAD. STAIR TREADS & LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT ACCUMULATION OF WATER. FLOOR IDENTIFICATION SIGNS SHALL BE LOCATED AT EACH FLOOR LANDING ADJACENT TO THE STAIRWELL DOOR LEADING INTO THE CORRIDOR. SIGNS SHALL BE IN RAISED CHARACTERS & BRAILLE. "EXIT" SIGNS SHALL BE LOCATED AT STAIRS LEADING TO THE EXTERIOR OF THE BUILDING. (See detail 21 ACC sheets)

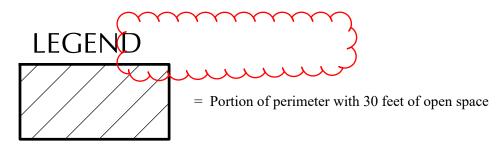


HANDRAILS

HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF STAIRS & RAMPS. THEY SHALL BE CONTINUOUS FOR THE FULL LENGTH OF EACH STAIR FLIGHT OR RAMP RUN. INSIDE HANDRAILS ON SWITCHBACKS SHALL BE CONTINUOUS BETWEEN FLIGHTS OR RUNS. HANDRAIL GRIPPING SURFACES & ANY SURFACES ADJACENT TO THEM SHALL BE FREE OF SHARP OR ABRASIVE ELEMENTS & SHALL HAVE ROUNDED EDGES. THEY SHALL BE CONTINUOUS ALONG THEIR LENGTH AND SHALL NOT BE OBSTRUCTED ALONG THEIR TOPS OR SIDES. THE BOTTOM SHALL NOT BE OBSTRUCTED FOR MORE THAN 20% OF IT'S LENGTH







FRONTAGE INCREASE TO BUILDING AREA

Per IBC Section 506.3 buildings that adjoin or have access to a public way or qualifying green space for more than 25% of their total perimeter are eligible for an area factor increase based on frontage.

To qualify for an area factor increase based on frontage, the public way or open space adjacent to the building perimeter shall have a minimum distance (W) of 20 feet, and only the first 30 feet shall be considered in the calculation. The measurement shall be to the nearest lot line, the entire width of a street, alley or public way, or the exterior face of an adjacent building on the same property.

For purposes of simplifying this calculation only those portions of perimeter fronting right of way or green space with a dimension of 30 feet or more are considered. Those portions of perimeter that front areas that may qualify (are more than 20 feet, but are less than 30 feet) are not included in the frontage calculation.

Frontage Area increase calculation: $I_f = [F/P-0.25]W/30$

 $I_f = area of increase due to frontage$

 \vec{F} = Building perimeter that fronts on a public way or open space

P = Full building perimeter

W = Width of public way or open space (max of 30')

For Building G F = 508.31'

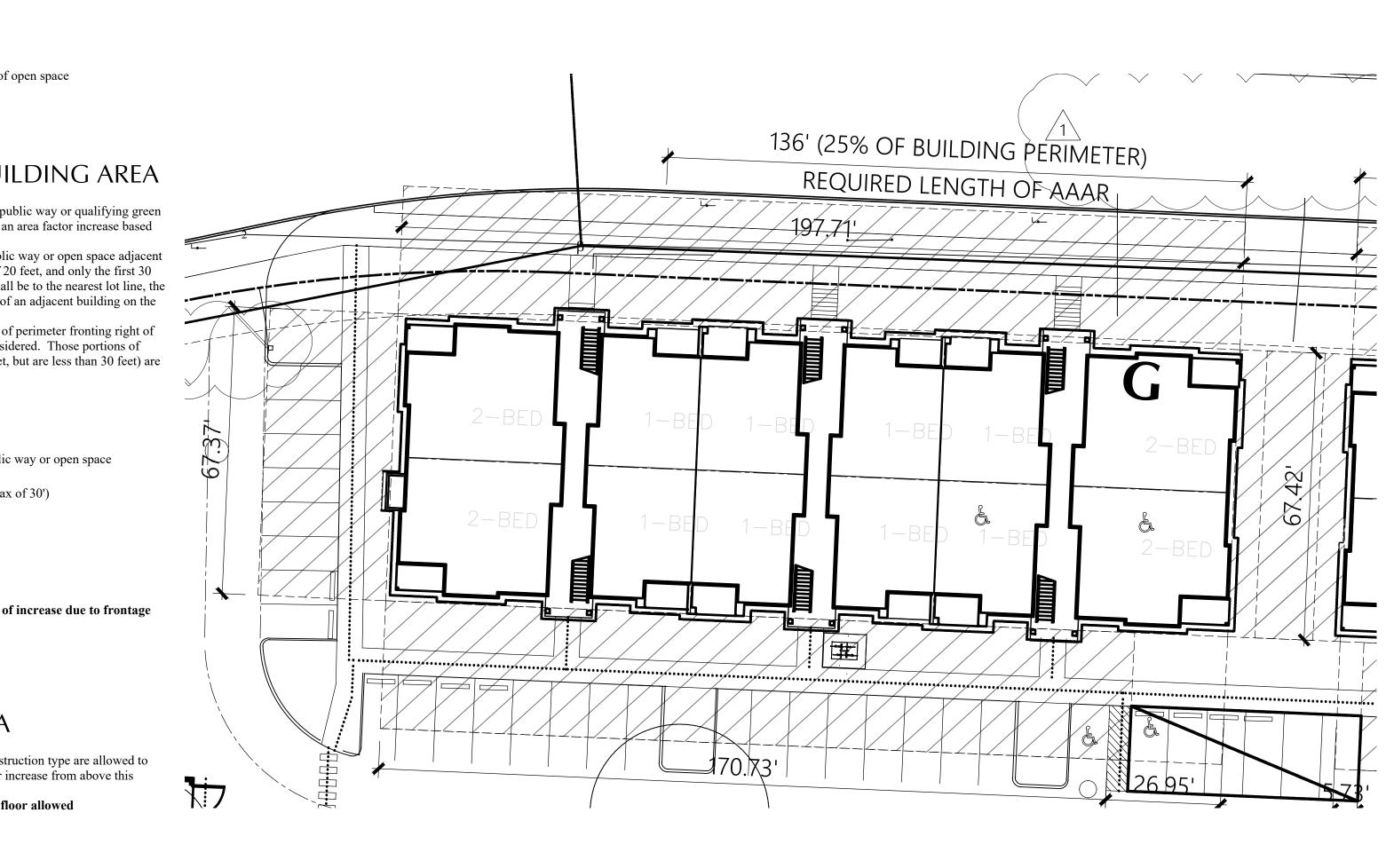
P = 530.28'W = 30'

 $I_f = [508.31'/530.28'-0.25]30'/30' = 0.70$ factor of increase due to frontage

ALLOWABLE BUILDING AREA

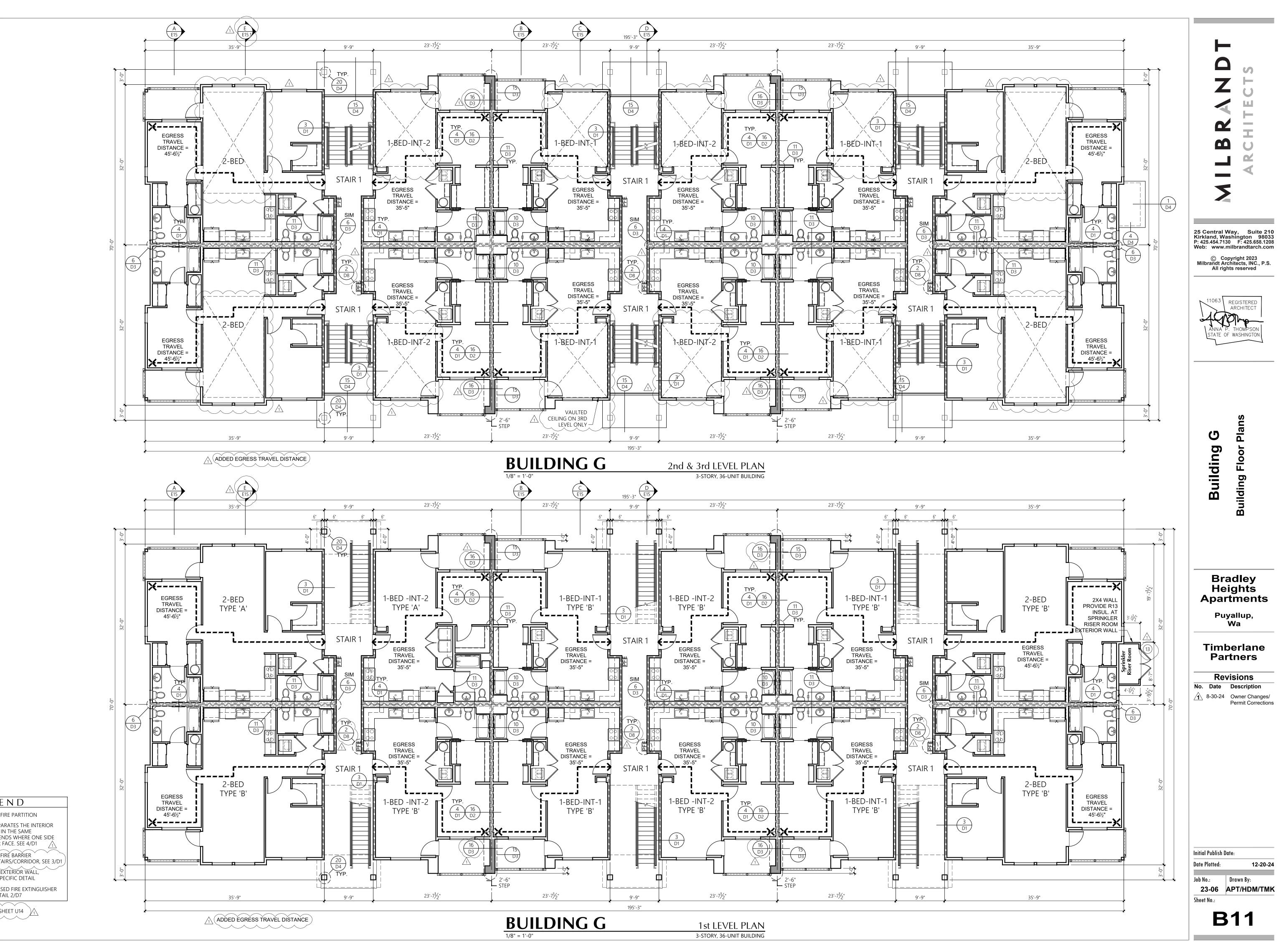
Per IBC Table 506.2: Buildings of R-2 occupancy with VB construction type are allowed to have an area of 7,000 square feet per floor. With the area factor increase from above this allowable area per floor is increased as follows: 7,000 s.f. + (7,000 s.f. X 0.70) = 11,959 square feet per floor allowed

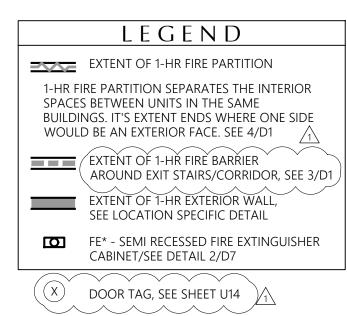
Proposed floor area for Building GFloor 1:11,908 s.f.Floor 2:11,378 s.f.Floor 3:11,762 s.f.

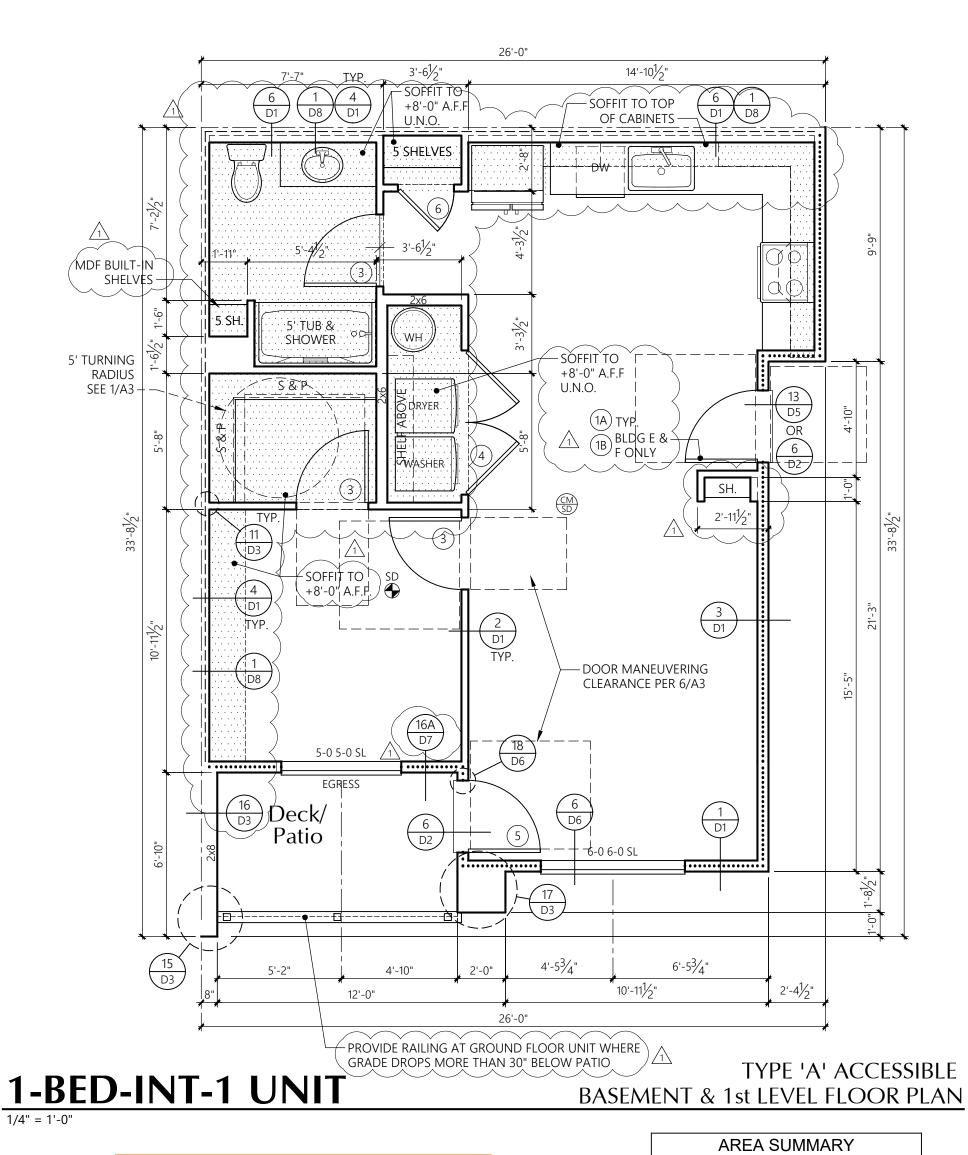




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11063 REGISTERED ARCHITECT ANNA P. THOMPSON STATE OF WASHINGTON
Area Increase Diagram Building G
Bradley Heights Apartments ^{Puyallup,} Wa
Timberlane PartnersRevisionsNo. DateDescription
Initial Publish Date: Date Plotted: 12-20-24 Job No.: Drawn By: 23-06 TMK Sheet No.:
H 4







Unit Plan Notes state that no plumbing shall be located in the 1" air gap. See plumbing plans plumbing multiple penetrations are being made within the 1" air gap. Coordinate drawings for consistency and ease of construction.

(Construction Set, Sheet U1-U5.1, Unit Plan Notes)

Unit Plan Notes identify that R-13 insulation will be provided on 1 side U.N.O., but detail 4/D1states to insulate both sides U.N.O. Please clarify if the wall will be insulated on both sides or one side only.

(Construction Set, Sheet U1-U5.1, Unit Plan Notes)

Door Key references Sheet U13 update plan or sheet numbers as needed, as there is no Sheet U13.

(Construction Set, Sheet U1-U5.1, Door Key)

DOOR KEY:
X DOOR TAG. SEE SHEET UI
WINDOW KEY:

TYPE:	
FIX = FIXED/PICTURE	
SL = SLIDER	

SH = SINGLE HUNG
SGD = SLIDING GLASS DOO

ĺ	INSULATION
	FOUNDATION PERIMETER - R-10 RIGID INSULATIO TO A DEPTH OF 24" OR TO TOP OF FOOTING AT HEATED PERIMETER
	EXTERIOR WALLS: FIBERGLASS BATTS OR BLANKE 2x6 WALLS - R21
	FLOORS OVER UNHEATED SPACES - R30
	ATTICS AND ROOF ASSEMBLIES - R-49 FULL HEIGHT OF UNCOMPRESSED INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES
	EXTERIOR DOORS: MAIN ENTRY U=0.20 ALL OTHERS U=0.40
	WINDOWS: MILGARD VINYLTYPE (VINYL)MODELU-VALUESLIDING6110 ARGON/LOE0.24 or BETTFIXED6310 ARGON/LOE0.24 or BETTSINGLE HUNG6210 ARGON/LOE0.24 or BETTDBL. SLIDER8125 ARGON/LOE0.24 or BETTSGD6610 ARGON/LOE0.24 or BETT
	NOTE: ALL CONCEALED OR EXPOSED INSULATIO SHALL HAVE A FLAME SPREAD INDEX OF N MORE THAN 25 AND A SMOKE-DEVELOPE INDEX OF NOT MORE THAN 450

υΝΙΤ	PLAN	N O T E S

2x6'S AT EXTERIOR WALLS 2x4'S AT INTERIOR WALLS UNLESS NOTED OTHERWISE.

R-21 BATT INSULATION U.N.O. – – – – – R-13 BATT INSULATION

 $3\frac{1}{2}$ " Acoustical insulation one side of partywall, U.N.O.

LOCATION OF SOFFIT FOR VENT RUNS. SOFFIT HEIGHT +8'-0" A.E.F. U.N.O. ON PLANS; SEE DETAIL 1/D8

SMOKE DETECTOR

FRAMING:

.

r-----

CARBON MONOXIDE/SMOKE DETECTOR

CONCEALED SPACES SHALL BE FIRESTOPPED IN BOTH DIRECTIONS AT 10'-0" ON CENTER AND AT FLOORS. TYPICAL.

ALL ESCAPE OR RESCUE WINDOWS FROM SLEEPING ROOMS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. THE MINIMUM CLEAR OPENING HEIGHT DIMENSION SHALL BE 24". MINIMUM CLEAR OPENING WIDTH DIMENSION SHALL BE 20". EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE THE BOTTOM OF CLEAR OPENING NOT GREATER THAN 44 INCHES MEASURED FROM THE FLOOR.

WHERE THE OPENING OF THE SILL PORTION OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72 INCHES ABOVE THE FINISHED GRADE OR OTHER SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE AT A HEIGHT NOT LESS THAN 36 INCHES ABOVE THE FINISHED FLOOR SURFACE OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4 INCH DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED WITHIN 36 INCHES OF THE FINISHED FLOOR.

ALL GLAZING SHALL CONFORM TO THE 2018 IBC, CHAPTER 24, SEC. 2406, SAFETY GLAZING. GLAZING IN ALL DOORS SHALL BE SAFETY TYPE AND ALL GLAZING WITHIN A 24" ARC OF EITHER VERTICAL EDGE SHALL BE SAFETY TYPE.

PROVIDE ⁵/₈" TYPE 'X' (MIN.) GYPSUM SHEATHING ON WALLS BEHIND TUB/SHOWERS TO SATISFY FIRE REQUIREMENTS AT PARTYWALL CONDITION. PROVIDE $\frac{3}{4}$ " PLYWOOD UNDER TUB IN PLACE OF THE GYPCRETE, SEE DETAIL 14/D1

PROVIDE WATER RESISTANT GYPSUM WALLBOARD BEHIND TUB AND SHOWER ENCLOSURE MATERIALS TO A HEIGHT OF 70" MINIMUM ABOVE THE DRAIN INLET.

NO PLUMBING SHALL BE LOCATED IN THE 1" AIR SPACE OF FIRE PARTITIONS OR FIRE WALLS. ALL BEDROOM AND BATHROOM DOORS SHALL BE UNDERCUT

A MINIMUM OF 1/2" ABOVE THE ADJACENT FLOOR COVERING. THE FRONT DOOR SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. IT MAY BE PROVIDED WITH A NIGHT LATCH, DEAD

BOLT OR SECURITY CHAIN, PROVIDED SUCH DEVICES ARE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL, AND MOUNTED NOT TO EXCEED 48" ABOVE THE FINISHED FLOOR.

GYPSUM WALLBOARD SCHEDULE EXCEPT WHERE NOTED OTHERWISE, 5/8" TYPE 'X' GYPSUM WALLBOARD SHALL BE USED THROUGHOUT; ON INTERIOR NON-RATED WALLS, EXTERIOR WALLS, CORRIDOR WALLS, AND 1-HOUR AND 2-HOUR FIRE-RATED WALLS.

STANDARD PLATE HEIGHT: 9'-1" SEE ELEVATION SHEETS FOR

FLOOR TO FLOOR HEIGHTS

WINDOW HDR IS 8'-0" UNLESS NOTED OTHERWISE

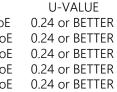
SEE SHEET U6 FOR INTERIOR ELEVATIONS AND ACCESSIBILITY REQUIREMENTS.



 $\overline{\frown}$ 13 FOR SCHEDULE \sim

ΟN RIGID INSULATION

BATTS OR BLANKETS



DSED INSULATION READ INDEX OF NOT NOKE-DEVELOPED AN 450

684 Total SF

Heated SF | Patio/Deck SF

61

ACCESSIBILITY NOTES:

ALL GROUND FLOOR UNITS IN THIS PROJECT MUST MEET THE ACCESSIBILITY REQUIREMENTS OF 'TYPE B' ACCESSIBLE UNITS AS REQUIRED BY CHAPTER 11 OF THE 2018 IBC.

INCLUDED IN THE ABOVE GROUND FLOOR UNITS 5% OF ALL UNITS NEED TO MEET THE ACCESSIBILITY REQUIREMENTS OF 'TYPE A' ACCESSIBLE UNITS AS REQUIRED BY CHAPTER 11 OF THE 2018 IBC. SEE BUILDING PLANS FOR LOCATION OF 'TYPE A' UNITS

SEE SHEET U9 FOR SPECIFIC ADAPTABILITY STANDARD FOR BOTH 'TYPE A' AND 'TYPE B' ACCESSIBLE UNITS. SEE INTERIOR ELEVATION SHEETS FOR ADDITIONAL ACCESSIBILITY REQUIREMENTS.

LIGHTING CONTROLS, ELECTRICAL SWITCHES, ENVIRONMENTAL CONTROLS, OPERATING HARDWARE FOR DOORS AND WINDOWS, AND PLUMBING FIXTURE CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. EXCEPT FOR OPERABLE DOOR HARDWARE, SUCH ITEMS SHALL BE 15" MINIMUM AND 44" MAXIMUM ABOVE THE FLOOR (48" FOR WINDOWS).

OPERABLE ENTRY DOOR HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR.

OPENING FORCES FOR ENTRY DOOR SHALL BE: 15 POUNDS TO RELEASE THE LATCH 30 POUNDS TO SET DOOR IN MOTION 15 POUNDS TO OPEN DOOR TO FULL 90° FORCE MEASURED AT LATCH SIDE OF DOOR.

THE DOOR CLOSER ON THE ENTRY DOOR SHALL BE ADJUSTED TO CLOSE FROM AN OPEN POSITION OF 90° TO AN OPEN POSITION OF 12° IN NOT LESS THAN 5 SECONDS.

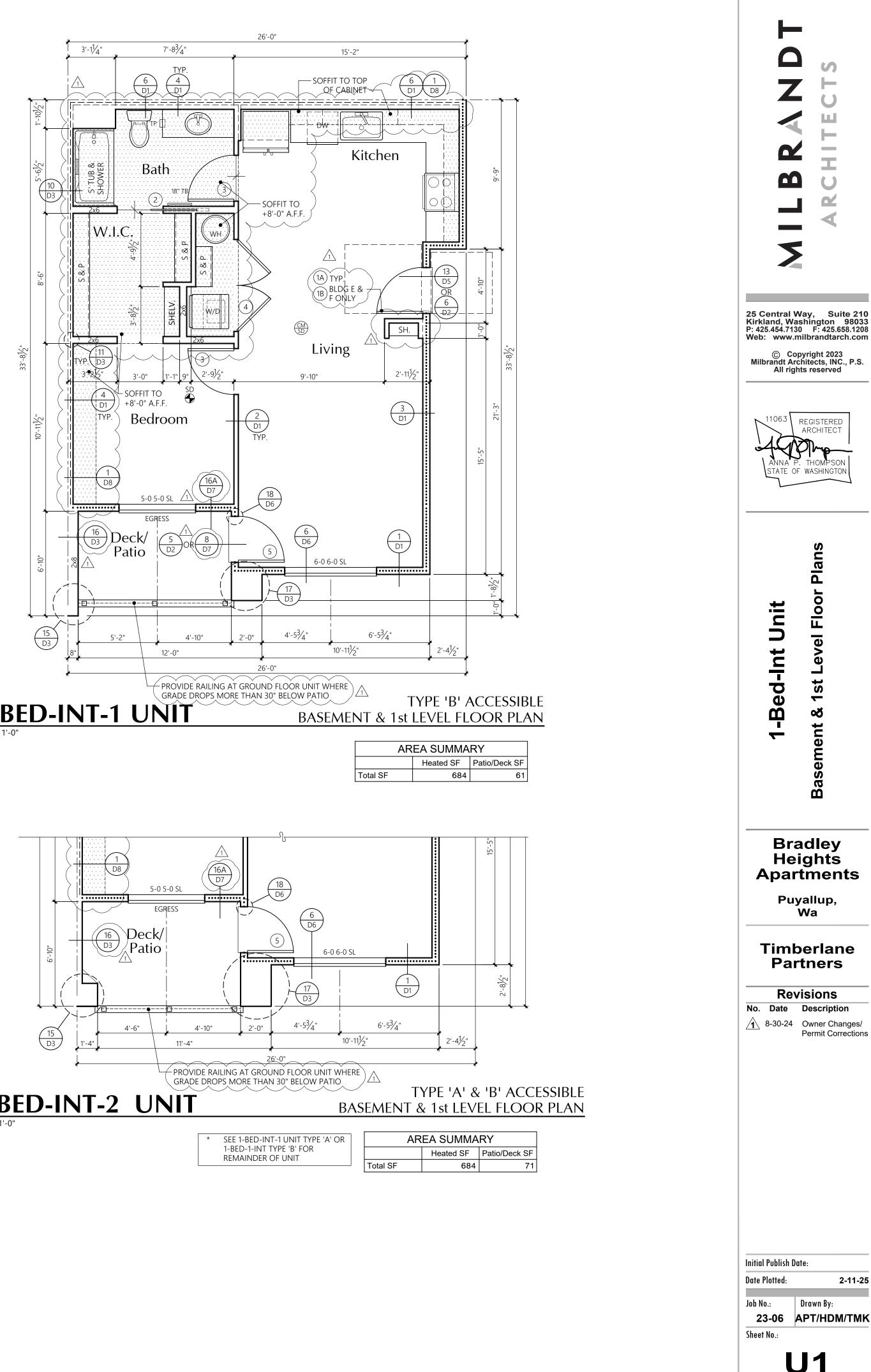
OPENING FORCE OF ALL SWINGING INTERIOR DOORS AND THE SLIDING GLASS DOOR SHALL NOT EXCEED 5 POUNDS APPLIED TO THE LATCH SIDE OF THE DOOR.

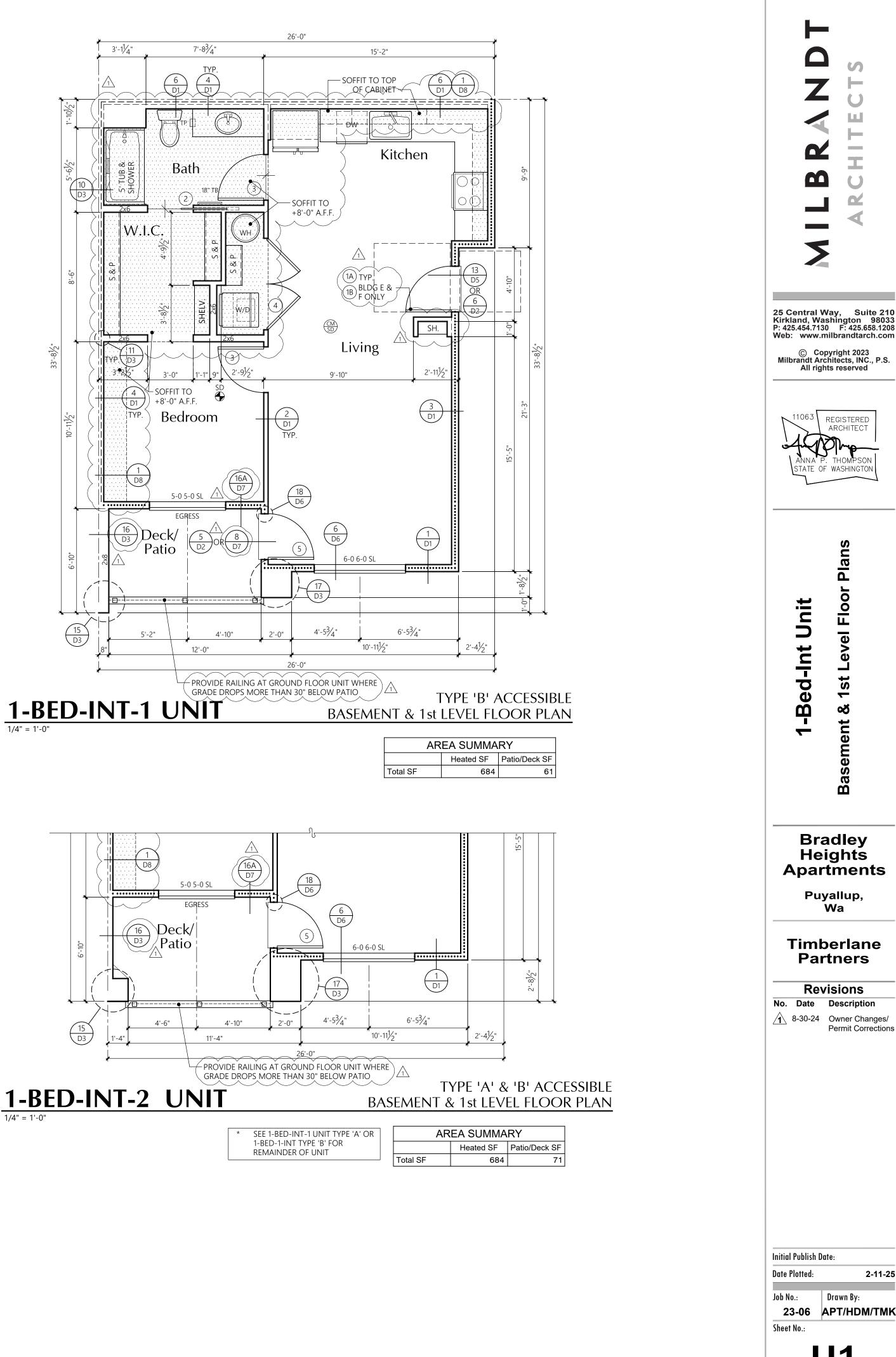
THE FORCE REQUIRED TO ACTIVATE ALL OTHER OPERABLE ITEMS LISTED ABOVE SHALL BE 5 POUNDS.

*BIFOLD DOOR HARDWARE AT LAUNDRY TO BE 'FULL ACCESS HARDWARE'.

30X48

_____ THE 30"x48" CLEAR FLOOR SPACE IS REQUIRED AT EACH FIXTURE OR LOCATION SHOWN ON THE FLOOR PLAN.





UNIT PLAN NOTES

RAMING:	2x6'S AT EXTERIOR WALLS 2x4'S AT INTERIOR WALLS UNLESS NOTED OTHERWISE.
• • • • • • • • • • • • • • •	R-21 BATT INSULATION U.N.O.
	R-13 BATT INSULATION 3½" ACOUSTICAL INSULATION ONE SIDE OF PARTYWALL, U.N.O.
	LOCATION OF SOFFIT FOR VENT RUNS. SOFFIT HEIGHT +8'-0" A.F.F. U.N.O. ON PLANS; SEE DETAIL 1/D8
SD	SMOKE DETECTOR

(CM) CARBON MONOXIDE/SMOKE DETECTOR

CONCEALED SPACES SHALL BE FIRESTOPPED IN BOTH DIRECTIONS AT 10'-0" ON CENTER AND AT FLOORS. TYPICAL.

ALL ESCAPE OR RESCUE WINDOWS FROM SLEEPING ROOMS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. THE MINIMUM CLEAR OPENING HEIGHT DIMENSION SHALL BE 24". MINIMUM CLEAR OPENING WIDTH DIMENSION SHALL BE 20". EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE THE BOTTOM OF CLEAR OPENING NOT GREATER THAN 44 INCHES MEASURED FROM THE FLOOR.

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ALL GLAZING SHALL CONFORM TO THE 2018 IBC, CHAPTER 24, SEC. 2406, SAFETY GLAZING. GLAZING IN ALL DOORS SHALL BE SAFETY TYPE AND ALL GLAZING WITHIN A 24" ARC OF EITHER VERTICAL EDGE SHALL BE SAFETY TYPE.

PROVIDE $\%^{"}$ Type 'X' (MIN.) Gypsum sheathing on Walls behind tub/showers to satisfy fire requirements at PARTYWALL CONDITION. PROVIDE $\frac{3}{4}$ " PLYWOOD UNDER TUB IN PLACE OF THE GYPCRETE, SEE DETAIL 14/D1

INSULATION

FOUNDATION PERIMETER - R-10 RIGID INSULATION TO A DEPTH OF 24" OR TO TOP OF FOOTING AT HEATED PERIMETER

EXTERIOR WALLS: FIBERGLASS BATTS OR BLANKETS 2x6 WALLS - R21

FLOORS OVER UNHEATED SPACES - R30 ATTICS AND ROOF ASSEMBLIES - R-49

FULL HEIGHT OF UNCOMPRESSED INSULATION EXTENDS OVER THE WALL TOP PLATE AT

THE EAVES EXTERIOR DOORS: MAIN ENTRY U=0.20

ALL OTHERS U=0.40

WINDOWS: MILGARD VINYL MODEL U-VALUE TYPE (VINYL) 6110 ARGON/LoE 0.24 or BETTER SLIDING 6310 ARGON/Loe 0.24 or BETTER FIXED SINGLE HUNG 6210 ARGON/LoE 0.24 or BETTER DBL. SLIDER 8125 ARGON/LoE 0.24 or BETTER

SGD 6610 ARGON/LoE 0.24 or BETTER NOTE: ALL CONCEALED OR EXPOSED INSULATION SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED

INDEX OF NOT MORE THAN 450

STANDARD PLATE HEIGHT: 9'-1"

SEE ELEVATION SHEETS FOR FLOOR TO FLOOR HEIGHTS

WINDOW HDR IS 8'-0" UNLESS NOTED OTHERWISE

SEE SHEET U6 FOR INTERIOR ELEVATIONS AND ACCESSIBILITY REQUIREMENTS.

PROVIDE WATER RESISTANT GYPSUM WALLBOARD BEHIND TUB AND SHOWER ENCLOSURE MATERIALS TO A HEIGHT OF 70" MINIMUM ABOVE THE DRAIN INLET.

NO PLUMBING SHALL BE LOCATED IN THE 1" AIR SPACE OF FIRE PARTITIONS OR FIRE WALLS.

ALL BEDROOM AND BATHROOM DOORS SHALL BE UNDERCUT A MINIMUM OF 1/2" ABOVE THE ADJACENT FLOOR COVERING.

THE FRONT DOOR SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. IT MAY BE PROVIDED WITH A NIGHT LATCH, DEAD BOLT OR SECURITY CHAIN, PROVIDED SUCH DEVICES ARE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL, AND MOUNTED NOT TO EXCEED 48" ABOVE THE FINISHED FLOOR.

GYPSUM WALLBOARD SCHEDULE EXCEPT WHERE NOTED OTHERWISE, 5/8" TYPE 'X' GYPSUM WALLBOARD SHALL BE USED THROUGHOUT; ON INTERIOR NON-RATED WALLS, EXTERIOR WALLS, CORRIDOR WALLS, AND 1-HOUR AND 2-HOUR FIRE-RATED WALLS.

 \sim

DOOR KEY:

(X) DOOR TAG. SEE SHEET U13 FOR SCHEDULE

WINDOW KEY:

FIX = FIXED/PICTURE SL = SLIDERSH = SINGLE HUNG SGD = SLIDING GLASS DOOR

ACCESSIBILITY NOTES:

ALL GROUND FLOOR UNITS IN THIS PROJECT MUST MEET THE ACCESSIBILITY REQUIREMENTS OF 'TYPE B' ACCESSIBLE UNITS AS REQUIRED BY CHAPTER 11 OF THE 2018 IBC.

INCLUDED IN THE ABOVE GROUND FLOOR UNITS 5% OF ALL UNITS NEED TO MEET THE ACCESSIBILITY REQUIREMENTS OF 'TYPE A' ACCESSIBLE UNITS AS REQUIRED BY CHAPTER 11 OF THE 2018 IBC. SEE BUILDING PLANS FOR LOCATION OF 'TYPE A' UNITS

SEE SHEET U9 FOR SPECIFIC ADAPTABILITY STANDARD FOR BOTH 'TYPE A' AND 'TYPE B' ACCESSIBLE UNITS. SEE INTERIOR ELEVATION SHEETS FOR ADDITIONAL ACCESSIBILITY REQUIREMENTS.

LIGHTING CONTROLS, ELECTRICAL SWITCHES, ENVIRONMENTAL CONTROLS, OPERATING HARDWARE FOR DOORS AND WINDOWS, AND PLUMBING FIXTURE CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. EXCEPT FOR OPERABLE DOOR HARDWARE, SUCH ITEMS SHALL BE 15" MINIMUM AND 44" MAXIMUM ABOVE THE FLOOR (48" FOR WINDOWS).

OPERABLE ENTRY DOOR HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR.

OPENING FORCES FOR ENTRY DOOR SHALL BE: 15 POUNDS TO RELEASE THE LATCH 30 POUNDS TO SET DOOR IN MOTION 15 POUNDS TO OPEN DOOR TO FULL 90° FORCE MEASURED AT LATCH SIDE OF DOOR.

THE DOOR CLOSER ON THE ENTRY DOOR SHALL BE ADJUSTED TO CLOSE FROM AN OPEN POSITION OF 90° TO AN OPEN POSITION OF 12° IN NOT LESS THAN 5 SECONDS.

OPENING FORCE OF ALL SWINGING INTERIOR DOORS AND THE SLIDING GLASS DOOR SHALL NOT EXCEED 5 POUNDS APPLIED TO THE LATCH SIDE OF THE DOOR.

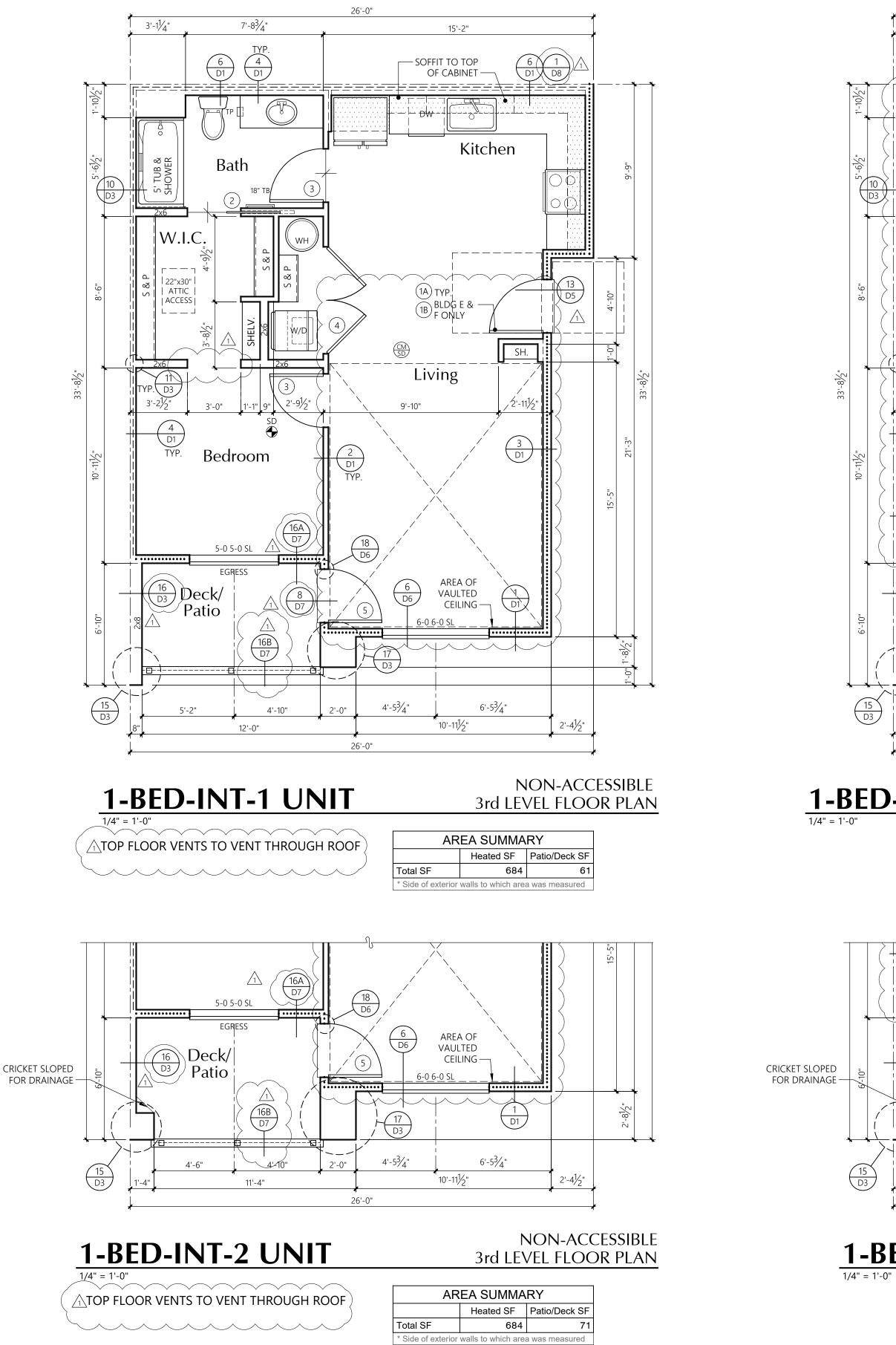
THE FORCE REQUIRED TO ACTIVATE ALL OTHER OPERABLE ITEMS LISTED ABOVE SHALL BE 5 POUNDS.

*BIFOLD DOOR HARDWARE AT LAUNDRY TO BE 'FULL ACCESS HARDWARE'.

THE 30"x48" CLEAR FLOOR SPACE IS REQUIRED AT EACH FIXTURE OR LOCATION SHOWN ON THE FLOOR PLAN.

_____ 30X48

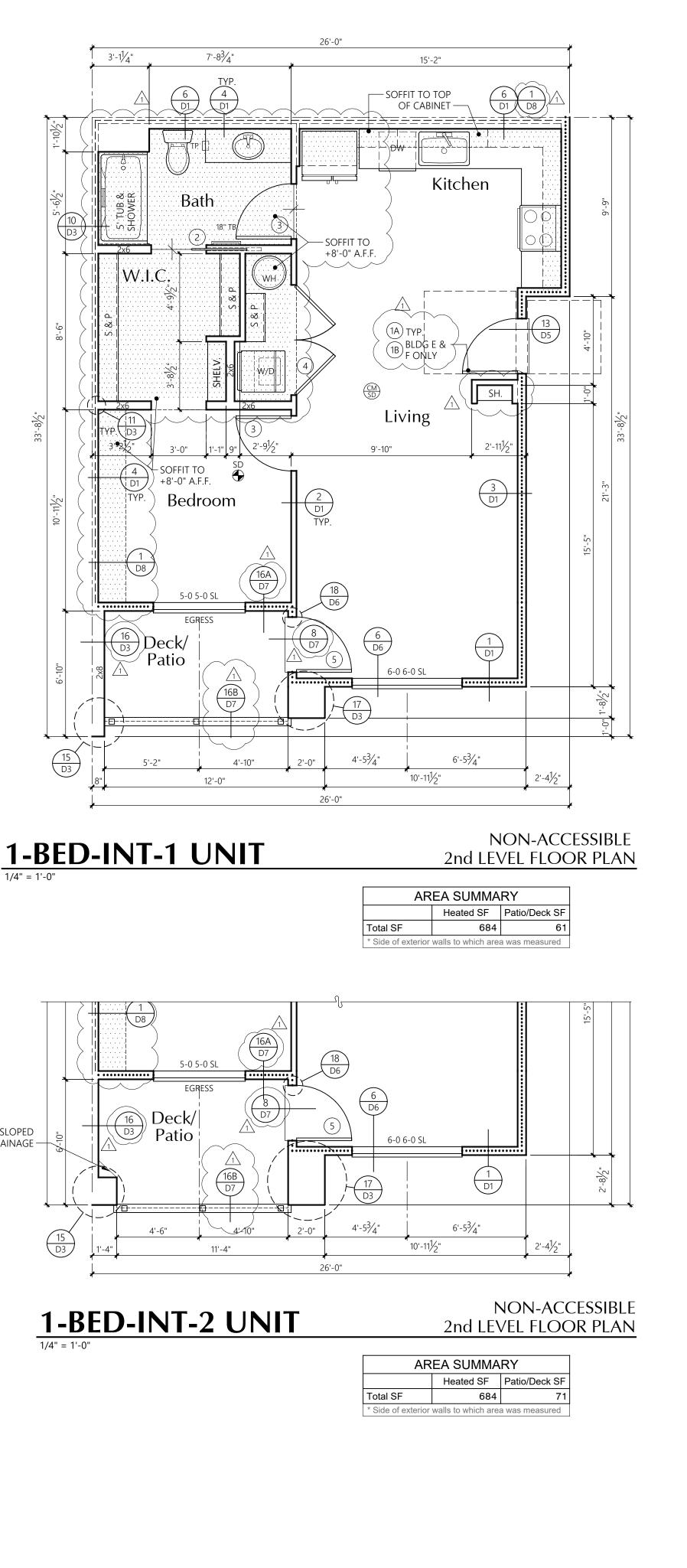
CRICKET SLOPED



1/4" = 1'-0"

(15 D3)

(15)



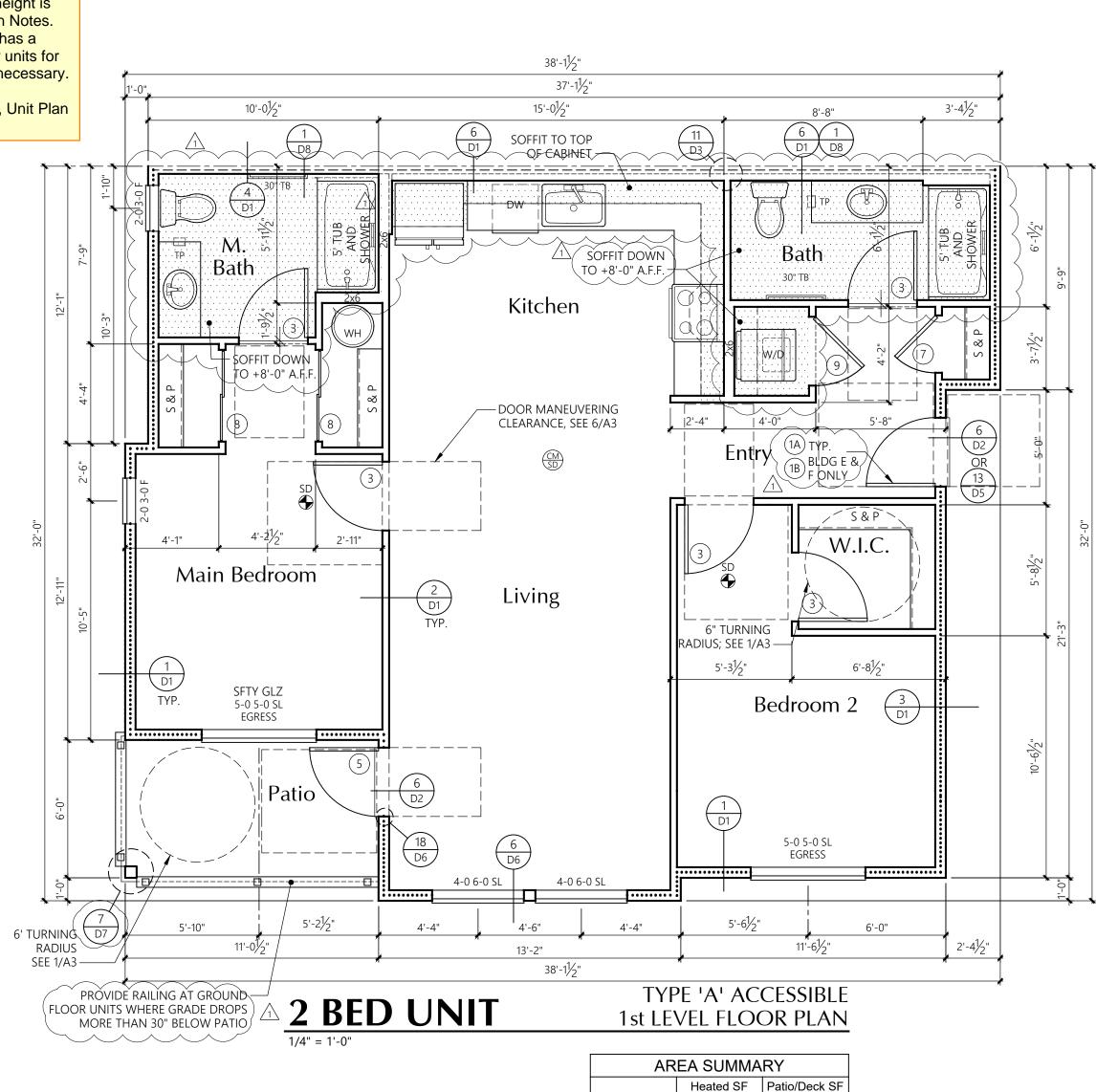


Review and clarify instances where header height will change as the header height is called out as 8' U.N.O. in Unit Plan Notes. Example 2 Bed Unit on Sheet U4 has a furred down ceiling. Review other units for additional instances and adjust if necessary.

(Construction Set, Sheet U1-U5.1, Unit Plan Notes)

Review and clarify how washer and dryer in all Type A units shall meet Washington Accessibility Code 2009, Section 611. Example 2 Bed Unit shows a washer and dryer that appear to be stackable which could put the loading openings outside the perimeters set by 611.4. Review and updated as needed.

(Construction Set, Sheet U1-U6, Unit Plan Plans)



UNIT PLAN NOTES

2x6'S AT EXTERIOR WALLS 2x4'S AT INTERIOR WALLS UNLESS NOTED OTHERWISE. R-21 BATT INSULATION U.N.O.

– – – – – R-13 BATT INSULATION 3¹/₂" ACOUSTICAL INSULATION ONE SIDE OF PARTYWALL, U.N.O.

LOCATION OF SOFFIT FOR VENT RUNS. SOFFIT HEIGHT +8'-0" A.E.F. U.N.O. ON PLANS; SEE DETAIL 1/D8

SMOKE DETECTOR

FRAMING:

(CM)

CARBON MONOXIDE/SMOKE DETECTOR

CONCEALED SPACES SHALL BE FIRESTOPPED IN BOTH DIRECTIONS AT 10'-0" ON CENTER AND AT FLOORS. TYPICAL.

ALL ESCAPE OR RESCUE WINDOWS FROM SLEEPING ROOMS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. THE MINIMUM CLEAR OPENING HEIGHT DIMENSION SHALL BE 24". MINIMUM CLEAR OPENING WIDTH DIMENSION SHALL BE 20". EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE THE BOTTOM OF CLEAR OPENING NOT GREATER THAN 44 INCHES MEASURED FROM THE FLOOR.

WHERE THE OPENING OF THE SILL PORTION OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72 INCHES ABOVE THE FINISHED GRADE OR OTHER SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE AT A HEIGHT NOT LESS THAN 36 INCHES ABOVE THE FINISHED FLOOR SURFACE OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4 INCH DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED WITHIN 36 INCHES OF THE FINISHED FLOOR.

ALL GLAZING SHALL CONFORM TO THE 2018 IBC, CHAPTER 24, SEC. 2406, SAFETY GLAZING. GLAZING IN ALL DOORS SHALL BE SAFETY TYPE AND ALL GLAZING WITHIN A 24" ARC OF EITHER VERTICAL EDGE SHALL BE SAFETY TYPE.

PROVIDE ⁵/₈" TYPE 'X' (MIN.) GYPSUM SHEATHING ON WALLS BEHIND TUB/SHOWERS TO SATISFY FIRE REQUIREMENTS AT PARTYWALL CONDITION. PROVIDE $\frac{3}{4}$ " PLYWOOD UNDER TUB IN PLACE OF THE GYPCRETE, SEE DETAIL 14/D1

PROVIDE WATER RESISTANT GYPSUM WALLBOARD BEHIND TUB AND SHOWER ENCLOSURE MATERIALS TO A HEIGHT OF 70" MINIMUM ABOVE THE DRAIN INLET.

NO PLUMBING SHALL BE LOCATED IN THE 1" AIR SPACE OF FIRE PARTITIONS OR FIRE WALLS.

ALL BEDROOM AND BATHROOM DOORS SHALL BE UNDERCUT A MINIMUM OF 1/2" ABOVE THE ADJACENT FLOOR COVERING.

THE FRONT DOOR SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. IT MAY BE PROVIDED WITH A NIGHT LATCH, DEAD BOLT OR SECURITY CHAIN, PROVIDED SUCH DEVICES ARE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL, AND MOUNTED NOT TO EXCEED 48" ABOVE THE FINISHED FLOOR.

GYPSUM WALLBOARD SCHEDULE EXCEPT WHERE NOTED OTHERWISE, 5/8" TYPE 'X' GYPSUM WALLBOARD SHALL BE USED THROUGHOUT; ON INTERIOR NON-RATED WALLS, EXTERIOR WALLS, CORRIDOR WALLS, AND 1-HOUR AND 2-HOUR FIRE-RATED NALLS.

HEIGHT: 9'-1" SEE ELEVATION SHEETS FOR FLOOR TO FLOOR HEIGHTS

STANDARD PLATE

WINDOW HDR IS 8'-0" UNLESS NOTED OTHERWISE

SEE SHEET U9 FOR INTERIOR ELEVATIONS AND ACCESSIBILITY REQUIREMENTS.

DOOR KEY: (X) DOOR TAG. SEE SHEET U13 FOR SCHEDULE $\wedge \land$ WINDOW KEY: I YPE: FIX = FIXED/PICTURE

SL = SLIDER SH = SINGLE HUNG SGD = SLIDING GLASS DOOR

Total SF

	Ν	S	U	L	A	Т	I	Ο	Ν
FOUNI TO A I HEATE	DEPTI	h Of	24	" O					
EXTER 2x6 W				FIB	ERG	LAS	IS I	BATT	'S OR I
FLOOF	RS ON	/ER l	JNF	HEA	TED	SP	AC	:ES -	R30
ATTICS FULL H EXTENI THE EA	eigh Ds O	IT OF	UI =	NCC	DMF	RES	SSE	ED IN	ISULA
EXTER ALL O					AIN	ENT	۲R۱	Y U=	=0.20
WIND TYPE (SLIDIN FIXED SINGL DBL. S SGD	VINY Ig .e hu	L) ING	61 63 62 81	 10	VIN MOI ARG ARG ARG ARG	DEL ON GON GON GON	/L /L /L	oE oE oE	U 0.24 0.24 0.24 0.24 0.24
NOTE:	sha Mof	ll H Re Th	ave Han	E A N 25	FLA 5 AN	ME ID A	SP A S	REA	d Indi Ke-dev

1019 66

ΟN RIGID INSULATION FOOTING AT

TTS OR BLANKETS

R-49 INSULATION ATE AT

J=0.20 U-VALUE

0.24 or BETTER SED INSULATION

EAD INDEX OF NOT 10KE-DEVELOPED 1 450

ACCESSIBILITY NOTES:

ALL GROUND FLOOR UNITS IN THIS PROJECT MUST MEET THE ACCESSIBILITY REOUIREMENTS OF 'TYPE B' ACCESSIBLE UNITS AS REQUIRED BY CHAPTER 11 OF THE 2018 IBC.

INCLUDED IN THE ABOVE GROUND FLOOR UNITS 5% OF ALL UNITS NEED TO MEET THE ACCESSIBILITY REQUIREMENTS OF 'TYPE A' ACCESSIBLE UNITS AS REQUIRED BY CHAPTER 11 OF THE 2018 IBC. SEE BUILDING PLANS FOR LOCATION OF 'TYPE A' UNITS

SEE SHEET U9 FOR SPECIFIC ADAPTABILITY STANDARD FOR BOTH 'TYPE A' AND 'TYPE B' ACCESSIBLE UNITS. SEE INTERIOR ELEVATION SHEETS FOR ADDITIONAL ACCESSIBILITY REQUIREMENTS.

LIGHTING CONTROLS, ELECTRICAL SWITCHES, ENVIRONMENTAL CONTROLS, OPERATING HARDWARE FOR DOORS AND WINDOWS, AND PLUMBING FIXTURE CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. EXCEPT FOR OPERABLE DOOR HARDWARE, SUCH ITEMS SHALL BE 15" MINIMUM AND 44" MAXIMUM ABOVE THE FLOOR (48" FOR WINDOWS).

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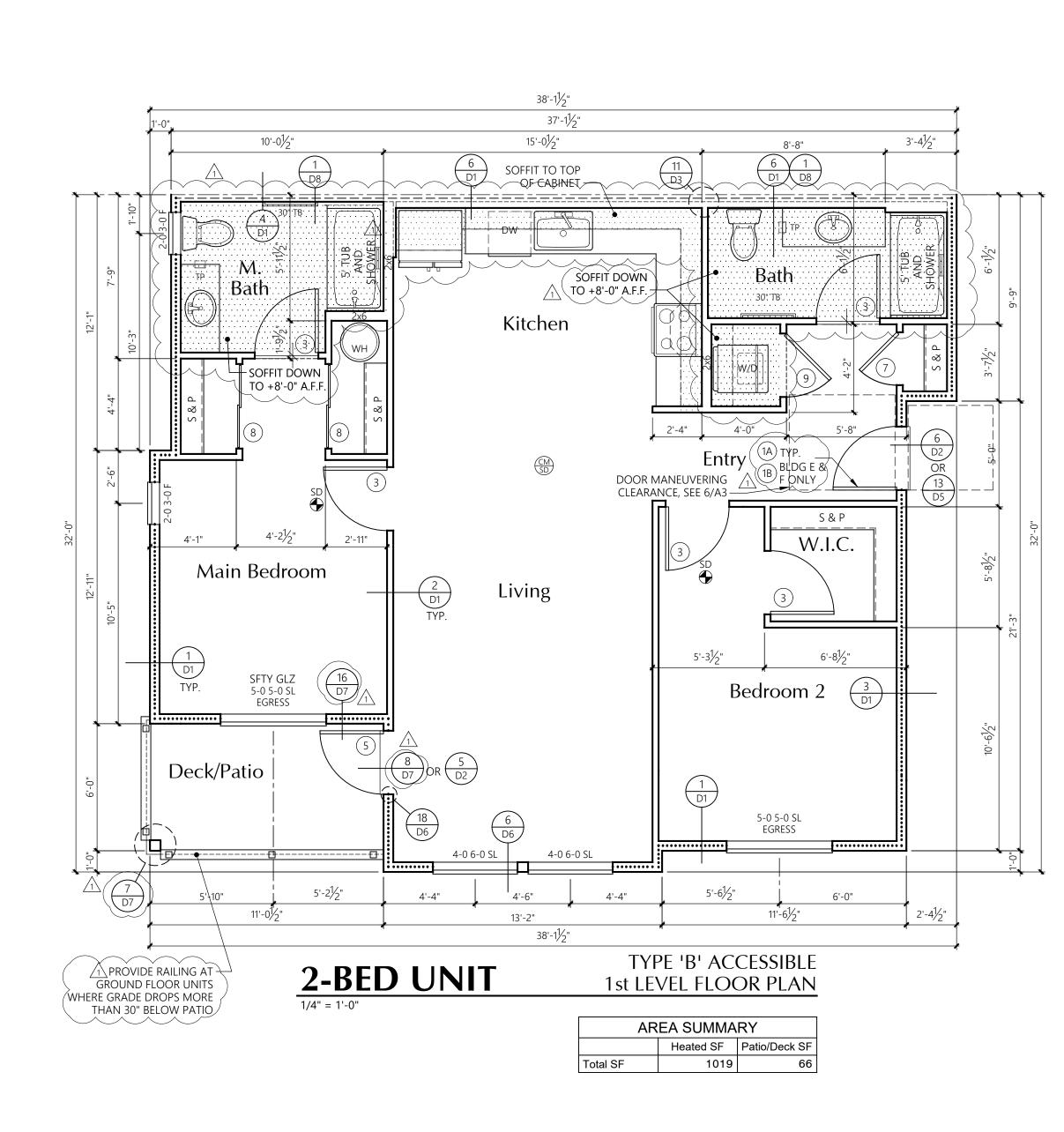
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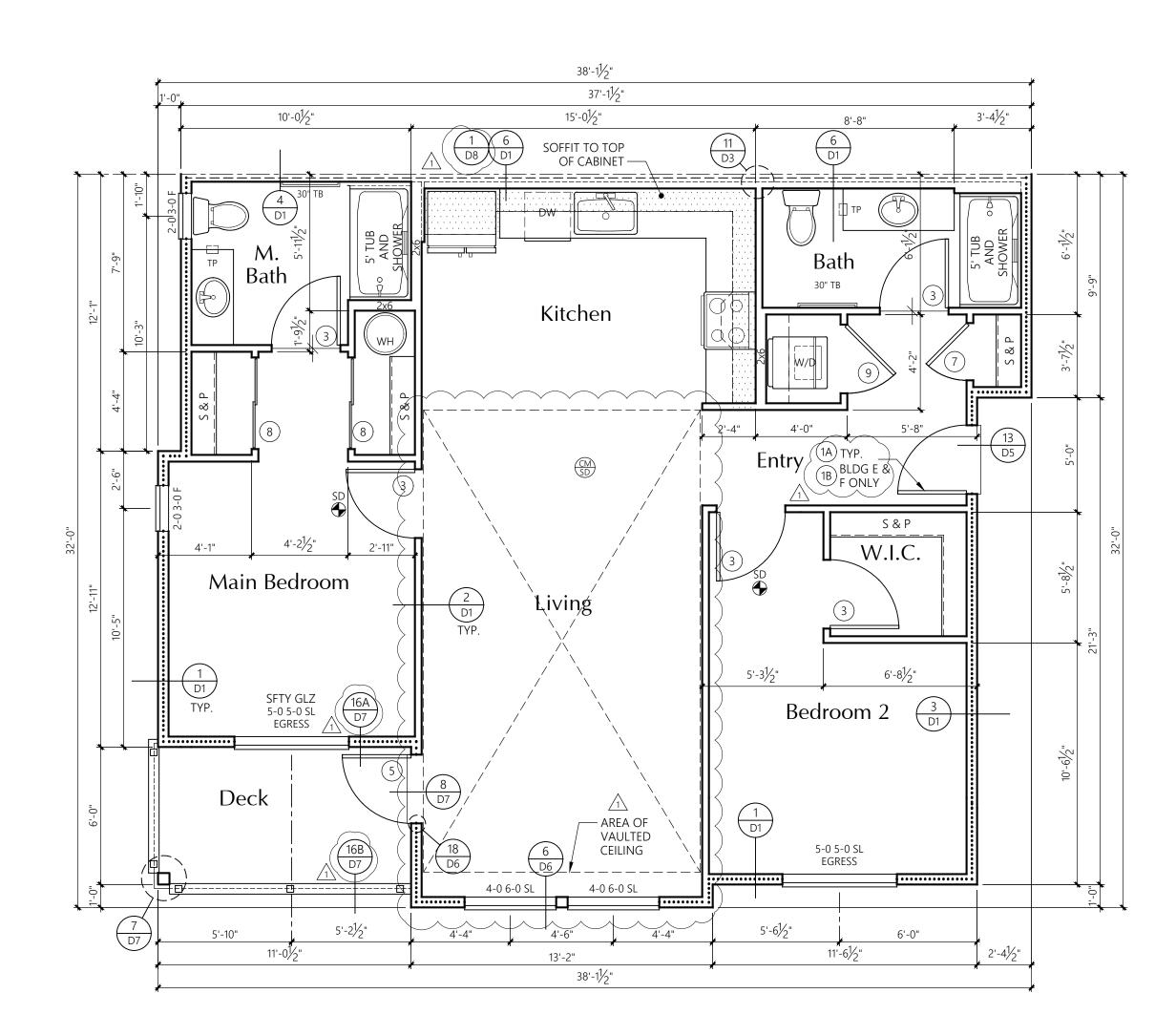
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THE 30"x48" CLEAR FLOOR SPACE IS REQUIRED AT EACH FIXTURE OR LOCATION SHOWN ON THE FLOOR PLAN.

30X48







2-BED UNIT 1/4" = 1'-0"

	AR	EA S
		Hea
Total SF		

DOOR KEY:

WINDOW KEY:

TYPE: FIX = FIXED/PICTURE SL = SLIDER SH = SINGLE HUNG

HEATED PERIMETER 2x6 WALLS - R21 FLOORS OVER UNHEATED SPACES - R30 THE EAVES ALL OTHERS U=0.40

WINDOWS: MILGARD VINYL TYPE (VINYL) SLIDING

FIXED SINGLE HUNG DBL. SLIDER

SGD NOTE: ALL CONCEALED OR EXPOSED INSULATION SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450

UNIT PLAN NOTES

FRAMING:

2x4'S AT INTERIOR WALLS UNLESS NOTED OTHERWISE. R-21 BATT INSULATION U.N.O.

2x6'S AT EXTERIOR WALLS

SMOKE DETECTOR

CM CARBON MONOXIDE/SMOKE DETECTOR

 $3^{1}\!\!2"$ acoustical insulation one side of partywall, u.n.o.

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PROVIDE ⁵/8" TYPE 'X' (MIN.) GYPSUM SHEATHING ON WALLS BEHIND TUB/SHOWERS TO SATISFY FIRE REQUIREMENTS AT PARTYWALL CONDITION. PROVIDE ³/4" PLYWOOD UNDER TUB IN PLACE OF THE GYPCRETE, SEE DETAIL 14/D1

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STANDARD PLATE HEIGHT: 9'-1" SEE ELEVATION SHEETS FOR

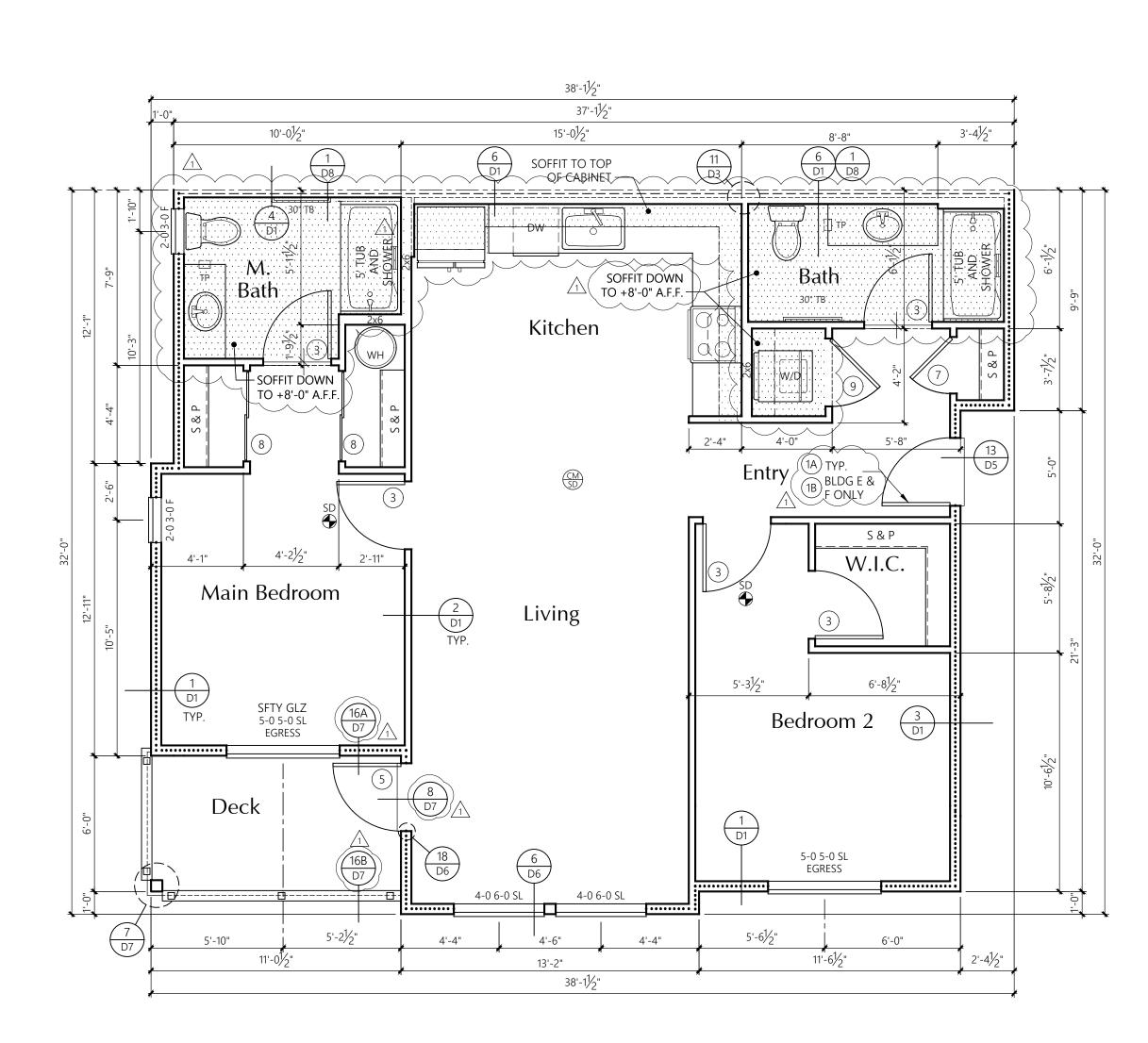
FLOOR TO FLOOR HEIGHTS

WINDOW HDR IS 8'-0" UNLESS NOTED OTHERWISE

SEE SHEET U9 FOR INTERIOR ELEVATIONS AND ACCESSIBILITY REQUIREMENTS.

LOCATION OF SOFFIT FOR VENT RUNS. SOFFIT HEIGHT +8'-0" A.F.F. U.N.O. ON PLANS; SEE DETAIL 1/D8

– – – – – R-13 BATT INSULATION



2-BED UNIT 1/4" = 1'-0"

NON-ACCESSIBLE 3rd LEVEL FLOOR PLAN

SUMMARY ated SF Patio/Deck SF 1019 66

(X) DOOR TAG. SEE SHEET U13 FOR SCHEDULE

SGD = SLIDING GLASS DOOR

INSULATION

FOUNDATION PERIMETER - R-10 RIGID INSULATION TO A DEPTH OF 24" OR TO TOP OF FOOTING AT

EXTERIOR WALLS: FIBERGLASS BATTS OR BLANKETS

ATTICS AND ROOF ASSEMBLIES - R-49 FULL HEIGHT OF UNCOMPRESSED INSULATION EXTENDS OVER THE WALL TOP PLATE AT

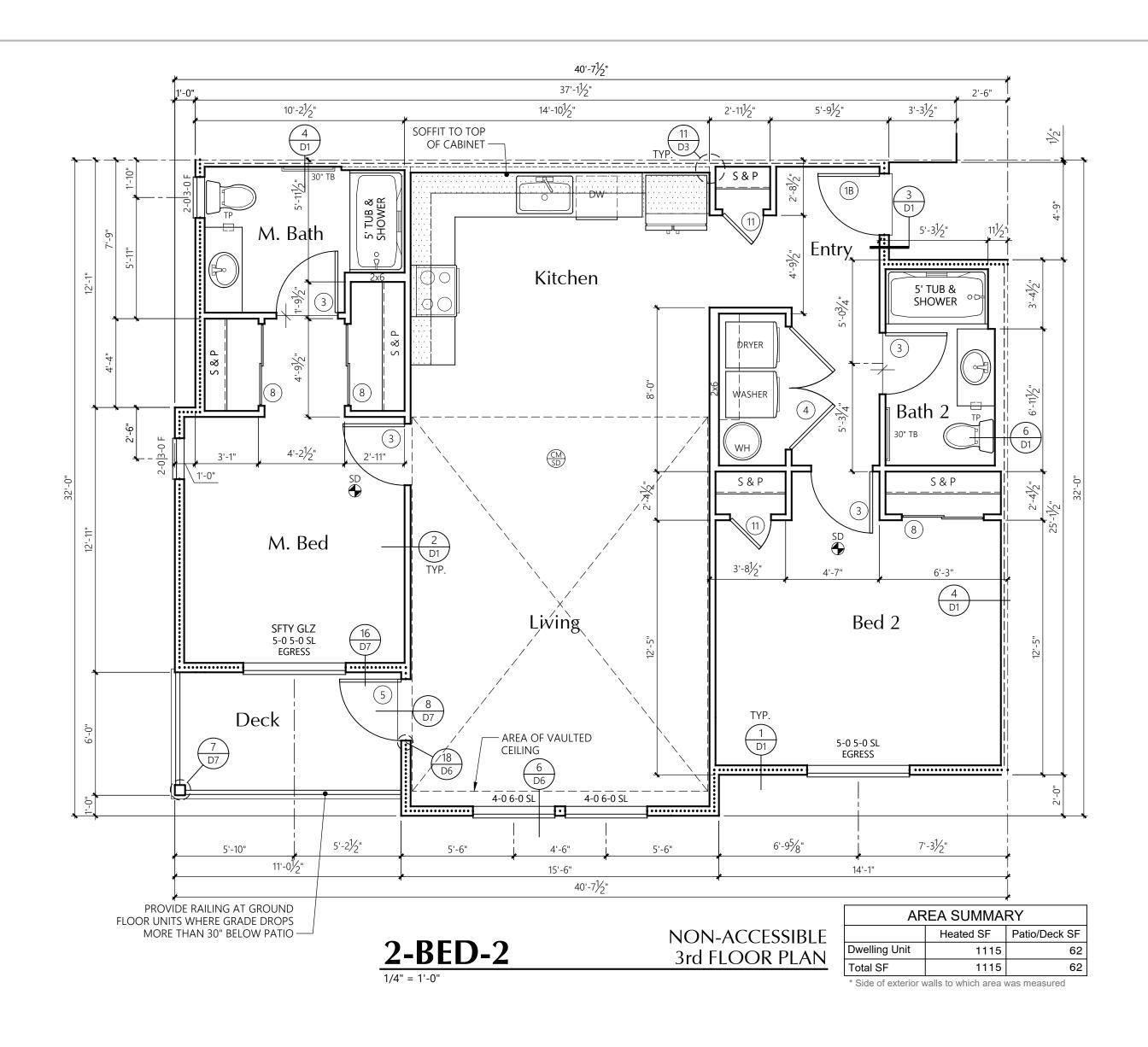
EXTERIOR DOORS: MAIN ENTRY U=0.20

.GARD VINYL	
MODEL	U-VALUE
6110 ARGON/LoE	0.24 or BETTER
6310 ARGON/LoE	0.24 or BETTER
6210 ARGON/LoE	0.24 or BETTER
8125 ARGON/LoE	0.24 or BETTER
6610 ARGON/LoE	0.24 or BETTER

NON-ACCESSIBLE 2nd LEVEL FLOOR PLAN

A	AREA SUMMARY								
	Heated SF	Patio/Deck SF							
Total SF	1019	66							





UNIT PLAN NOTES

.

2x6'S AT EXTERIOR WALLS 2x4'S AT INTERIOR WALLS UNLESS NOTED OTHERWISE. R-21 BATT INSULATION U.N.O.

 $3^{1}\!\!2"$ acoustical insulation one side of partywall, u.n.o.

LOCATION OF SOFFIT FOR VENT

RUNS. SOFFIT HEIGHT +8'-0" A.F.F.

U.N.O. ON PLANS; SEE DETAIL 1/D8

SMOKE DETECTOR

– – – – – R-13 BATT INSULATION

CM CARBON MONOXIDE/SMOKE DETECTOR

CONCEALED SPACES SHALL BE FIRESTOPPED IN BOTH DIRECTIONS AT 10'-0" ON CENTER AND AT FLOORS. TYPICAL.

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THE FRONT DOOR SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. IT MAY BE PROVIDED WITH A NIGHT LATCH, DEAD BOLT OR SECURITY CHAIN, PROVIDED SUCH DEVICES ARE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR TOOL, AND MOUNTED NOT TO EXCEED 48" ABOVE THE FINISHED FLOOR.

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STANDARD PLATE HEIGHT: 9'-1" SEE ELEVATION SHEETS FOR

FLOOR TO FLOOR HEIGHTS

WINDOW HDR IS 8'-0" UNLESS NOTED OTHERWISE

SEE SHEET U10 FOR INTERIOR ELEVATIONS AND ACCESSIBILITY REQUIREMENTS.

DOOR KEY:

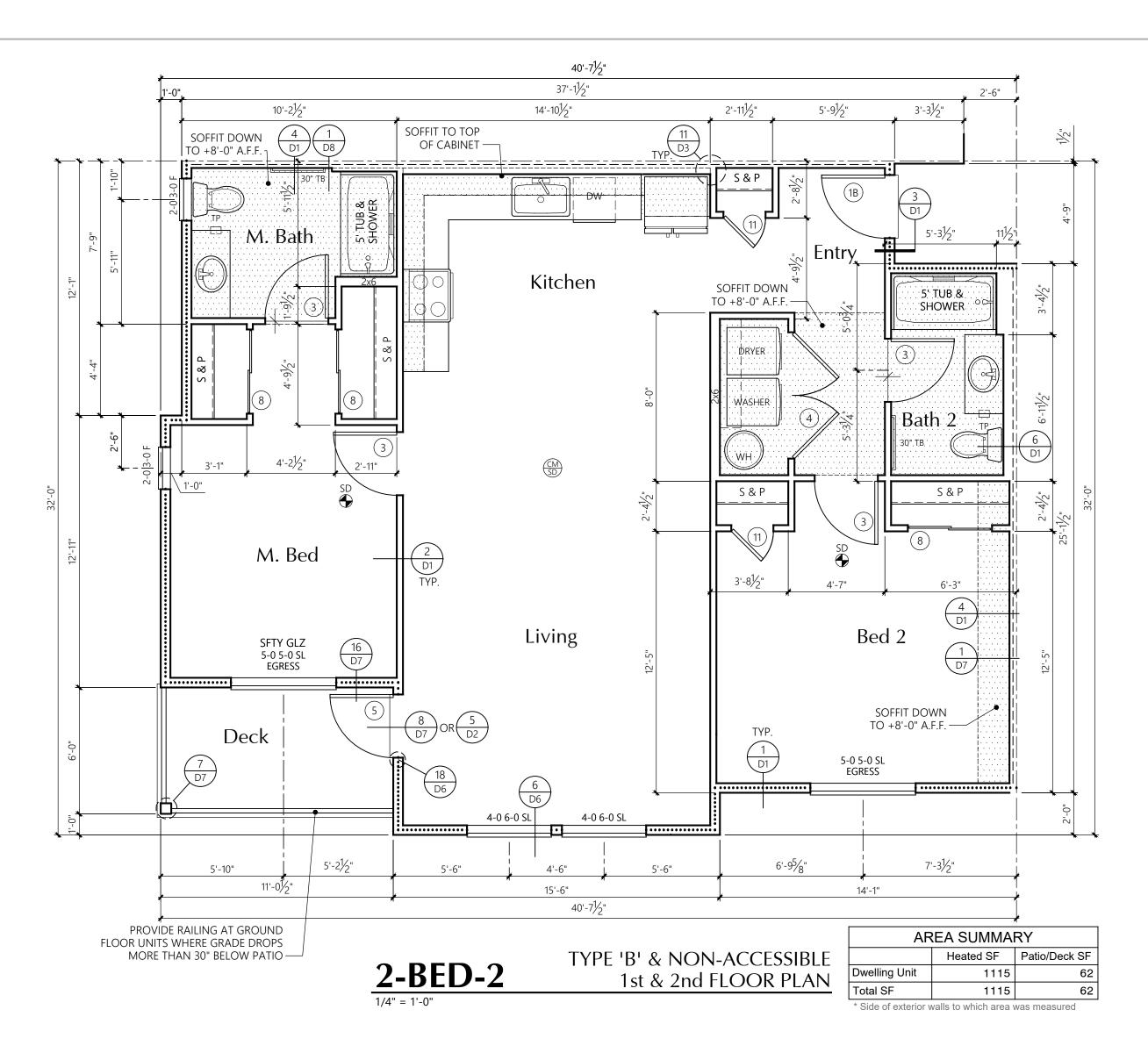
WINDOW KEY:

TYPE: FIX = FIXED/PICTURE SL = SLIDER SH = SINGLE HUNG SGD = SLIDING GLASS DOOR

HEATED PERIMETER 2x6 WALLS - R21 THE EAVES ALL OTHERS U=0.40 WINDOWS: MILGARD VINYL

TYPE (VINYL) SLIDING FIXED SINGLE HUNG

DBL. SLIDER 6610 ARGON/LoE 0.24 or BETTER SGD NOTE: ALL CONCEALED OR EXPOSED INSULATION SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450



Review locations of smoke detectors and carbon monoxide detectors to insure they are placed per Washington State Building Code, Section 907.2.10.2 and 915.2.1. See Sheet U5.1 outside Bed 2 as an example only. Review all unit layouts for other instances.

(Construction Set, Sheet U1-U5.1, Unit Plans)

(X) DOOR TAG. SEE SHEET U13 FOR SCHEDULE

INSULATION

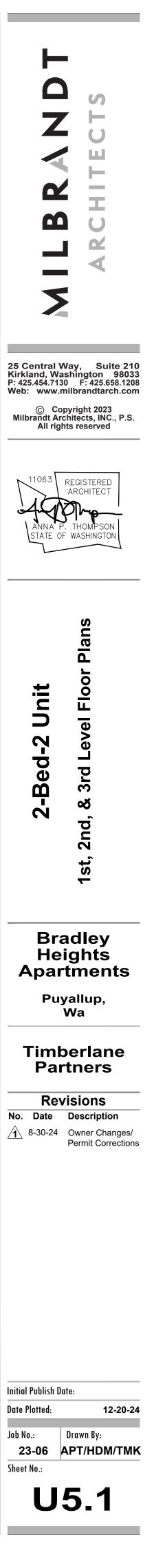
FOUNDATION PERIMETER - R-10 RIGID INSULATION TO A DEPTH OF 24" OR TO TOP OF FOOTING AT

EXTERIOR WALLS: FIBERGLASS BATTS OR BLANKETS FLOORS OVER UNHEATED SPACES - R30

ATTICS AND ROOF ASSEMBLIES - R-49 FULL HEIGHT OF UNCOMPRESSED INSULATION EXTENDS OVER THE WALL TOP PLATE AT

EXTERIOR DOORS: MAIN ENTRY U=0.20

GARD VINYL	
MODEL	U-VALUE
6110 ARGON/LoE	0.24 or BETTER
6310 ARGON/LoE	0.24 or BETTER
6210 ARGON/LoE	0.24 or BETTER
8125 ARGON/LoE	0.24 or BETTER
6610 ADCON/LOE	0.24 or BETTED



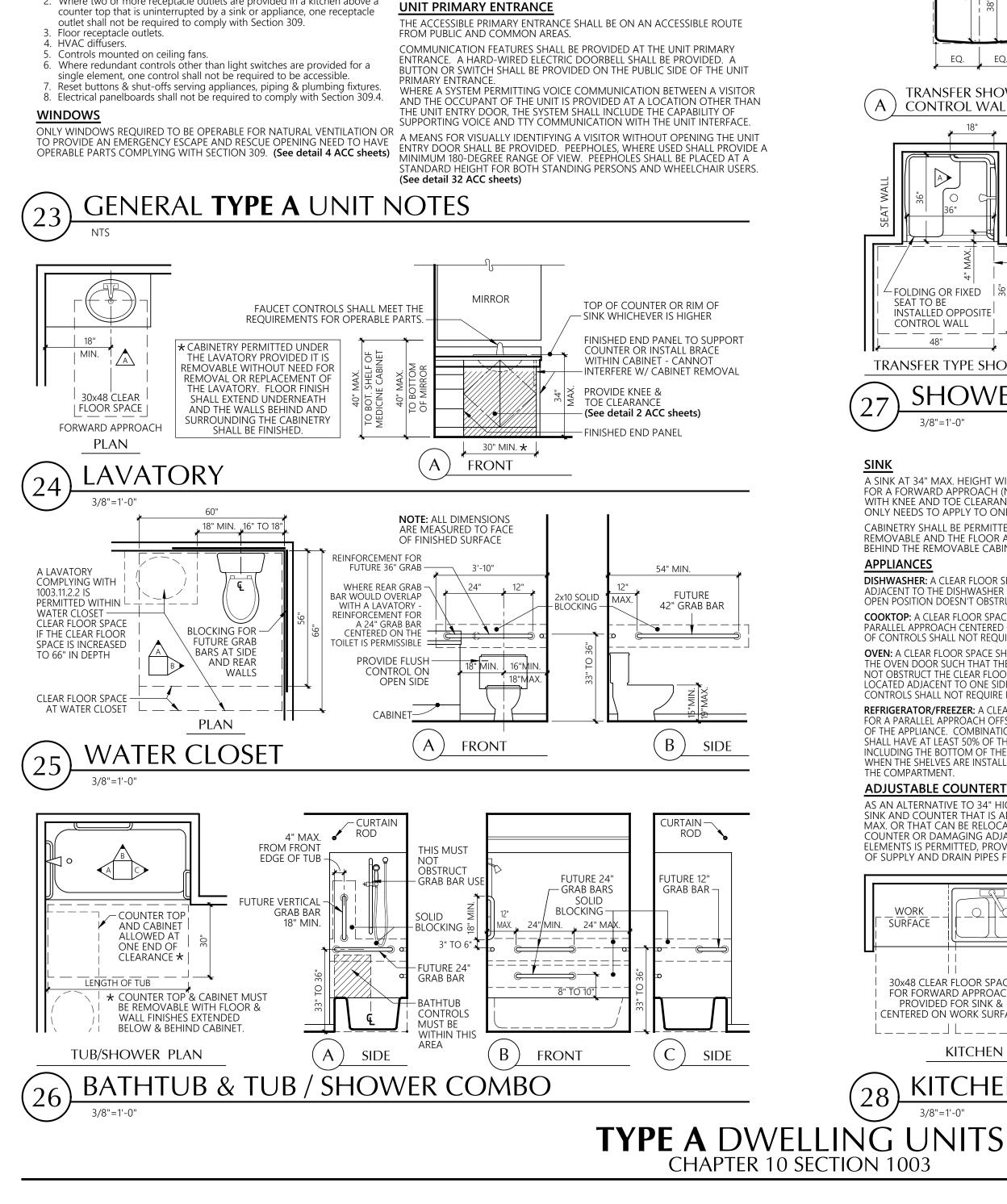
 \sim ▲ SHEET ADDED \land \land \land

FRAMING:









LIGHTING CONTROLS, ELECTRICAL PANELBOARDS, ELECTRICAL SWITCHES & RECEPTACLE OUTLETS, ENVIRONMENTAL CONTROLS, APPLIANCE CONTROLS, OPERATING HARDWARE FOR OPERABLE WINDOWS, PLUMBING FIXTURE CONTROLS, AND USER CONTROLS FOR SECURITY OR INTERCOM **EXCEPTIONS:** . Receptacle outlets serving a dedicated use.

SYSTEMS SHALL COMPLY WITH SECTION 309. (See detail 4 ACC sheets)

2. Where two or more receptacle outlets are provided in a kitchen above a

ALARM. THE SAME VISIBLE NOTIFICATION APPLIANCE CAN BE USED FOR BOTH SMOKE DETECTION AND FIRE ALARM ACTIVATION, BUT SHALL NOT BE USED FOR ANY OTHER PURPOSE WITHIN THE UNIT.

VISIBLE NOTIFICATION APPLIANCES, WHERE PROVIDED AS PART OF THE UNIT

SMOKE DETECTION SYSTEM OR BUILDING FIRE ALARM SYSTEM, SHALL BE

WITH THE CAPABILITY TO SUPPORT VISIBLE ALARM NOTIFICATION APPLIANCES. SUCH CAPABILITY SHALL ACCOMMODATE WIRED OR WIRELESS EQUIPMENT. THE FUTURE CAPABILITY SHALL INCLUDE ONE OF THE FOLLOWING: The interconnection of the building fire alarm system with the unit smoke alarms. Replacement of audible appliances with combination audible/visible appliances. The future extension of the existing wiring from the unit smoke alarm location to required locations for visible appliances.

ACTIVATED UPON SMOKE DETECTION OR WITH ACTIVATION OF THE BUILDING FIRE

ACCESSIBLE AUDIBLE AND VISIBLE ALARMS AND NOTIFICATION APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 LISTED IN SECTION 105.2.2, BE POWERED BY A COMMERCIAL LIGHT AND POWER SOUCE, BE PERMANENTLY CONNECTED TO THE WIRING OF THE PREMISES ELECTRIC SYSTEM, AND BE

PERMANENTLY INSTALLED.

VISIBLE NOTIFICATION APPLIANCES IN GROUP R-2 OCCUPANCIES REOUIRED TO HAVE A FIRE ALARM SYSTEM, EACH

STORY THAT CONTAINS DWELLING UNITS & SLEEPING UNITS SHALL BE PROVIDED

CLOSETS, BATHTUBS AND SHOWER SEATS. REINFORCEMENT IS NOT REQUIRED IN A ROOM CONTAINING ONLY A LAVATORY AND A WATER CLOSET, PROVIDED THE ROOM DOES NOT CONTAIN THE ONLY LAVATORY OR WATER CLOSET ON THE ACCESSIBLE LEVEL OF THE DWELLING UNIT. ALARMS

THAT MEETS THE REQUIREMENTS DETAILED FOR **TYPE A** FIXTURES (See details 23 thru 28 ACC sheets). THE ACCESSIBLE TOILET AND BATHING FIXTURES SHALL BE IN A SINGLE TOILET/BATHING AREA SUCH THAT TRAVEL BETWEEN FIXTURES DOES NOT REQUIRE TRAVEL THROUGH OTHER PARTS OF THE UNIT ALL TOILET & BATHING FACILITIES WITHIN A TYPE A UNIT SHALL PROVIDE REINFORCEMENT FOR THE FUTURE INSTALLATION OF GRAB BARS AT WATER

TOILET AND BATHING FACILITIES AT LEAST ONE TOILET AND BATHING FACILITY SHALL CONTAIN: ONE LAVATORY, ONE WATER CLOSET AND EITHER A BATHTUB OR SHOWER WITHIN THE UNIT ALL ROOMS SERVED BY AN ACCESSIBLE ROUTE SHALL PROVIDE A TURNING

LAUNDRY EQUIPMENT WASHING MACHINES AND CLOTHES DRYERS SHALL COMPLY WITH SECTION 611. (See detail 20 ACC sheets)

IN GROUP R-2 OCCUPANCIES CONTAINING MORE THAN 10 DWELLING UNITS OR SLEEPING UNITS AT LEAST 5% BUT NOT LESS THAN ONE OF THE UNITS HALL BE A TYPE A UNIT. ALL UNITS ON THE SITE SHALL BE CONSIDERED TO DETERMINE THE TOTAL NUMBER OF UNITS AND THE REQUIRED NUMBER OF TYPE A UNITS. EXISTING STRUCTURES ON A SITE SHALL NOT CONTRIBUTE TO THE TOTAL NUMBER OF UNITS ON A SITE. TYPE A UNITS SHALL BE DISPERSED AMONG THE VARIOUS CLASSES OF UNITS. THE NUMBER OF TYPE A UNITS IS PERMITTED TO BE REDUCED IN ACCORDANCE WITH CONDITIONS DEFINED IN SECTION 1107.7 OF THE IBC.

NUMBER OF TYPE A UNITS

ACCESSIBLE ROUTE

IN DFPTH

A MAX SLOPE OF

OUTSIDE OF THE DOOR.

ARC OF THE DOOR SWING.

OPERABLE PARTS

CIRCULATION PATH. (See detail 5 ACC sheets)

TURNING SPACE & CLEAR FLOOR SPACE

NOT NEED TO HAVE A TURNING SPACE

DOORS AND DOORWAYS

AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ALL SPACES AND

ELEMENTS THAT ARE PART OF THE UNIT. ACCESSIBLE ROUTES SHALL

COINCIDE WITH OR BE LOCATED IN THE SAME AREA AS THE GENERAL

SPACE EXCEPT FOR BATHROOMS THAT ARE NOT REQUIRED TO MEET

ACCESSIBILITY STANDARDS, OR CLOSETS OR PANTRIES THAT ARE 48" MAX

(See detail 1 ACC sheets)

THE PRIMARY ENTRANCE DOOR AND ALL DOORS INTENDED FOR USER PASSAGE, SHALL COMPLY WITH SECTION 404. (See detail 6 ACC sheets)

BALCONY DOORS: THRESHOLDS AT EXTERIOR SLIDING DOORS SHALL BE

PERMITTED TO BE $\frac{3}{4}$ " MAX. IN HEIGHT PROVIDED THEY ARE BEVELED WITH

WHERE EXTERIOR SPACE DIMENSIONS OF BALCONIES ARE LESS THAN THE

BATHROOM DOORS: BATHROOMS NOT REQUIRED TO BE ACCESSIBLE

BATHROOM DOORS MAY SWING INTO THE BATHROOM AND INTO THE

REQUIRED CLEAR FLOOR SPACE AT ANY FIXTURE WHEN A CLEAR FLOOR

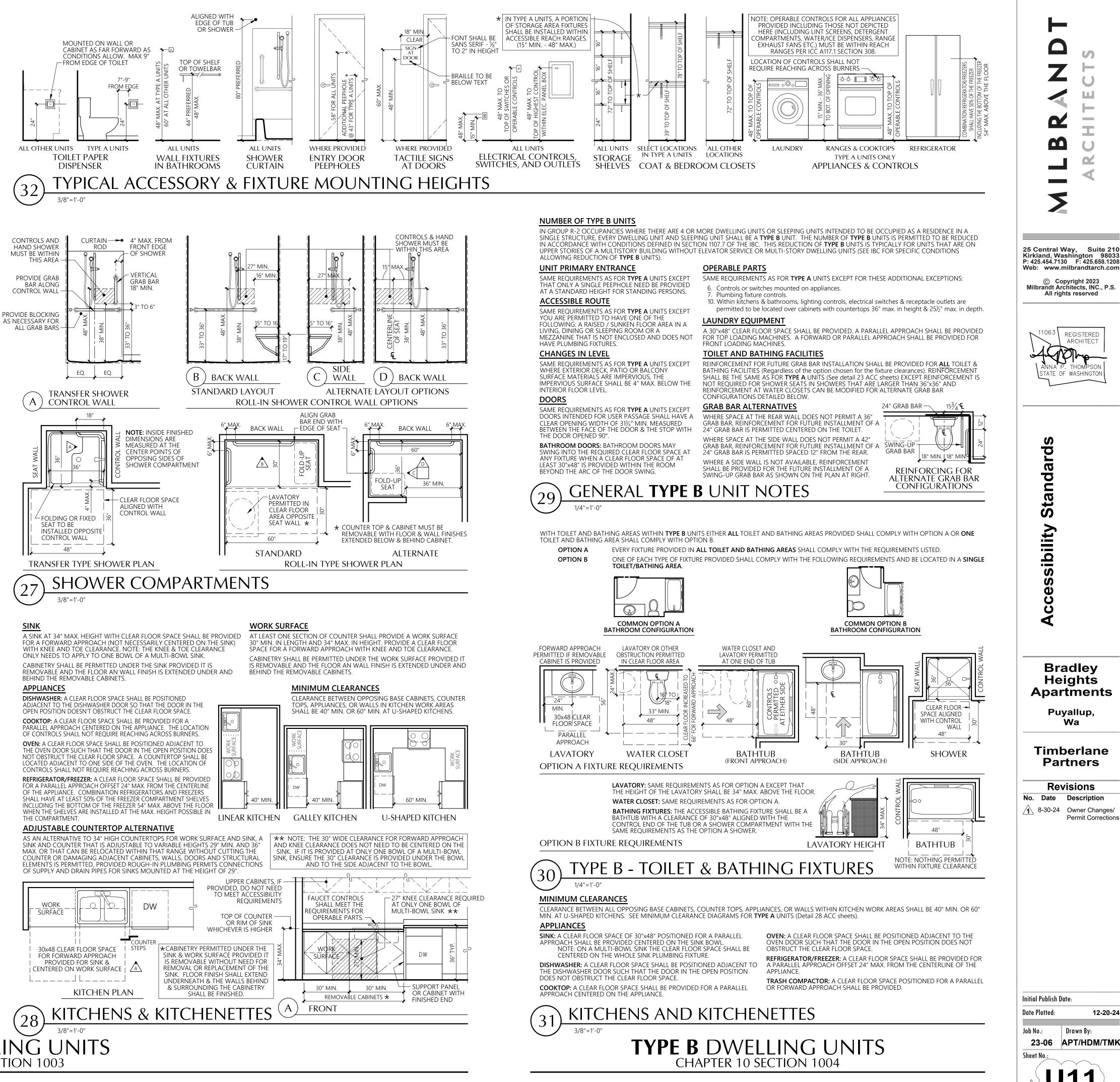
SPACE OF AT LEAST 30"x48" IS PROVIDED WITHIN THE ROOM BEYOND THE

ONLY NEED TO PROVIDE DOOR MANEUVERING CLEARANCE ON THE

ARE NOT REQUIRED ON THE EXTERIOR SIDE OF THE DOOR.

REQUIRED MANEUVERING CLEARANCE, DOOR MANEUVERING CLEARANCES

NOTE: BALCONIES AND CORRIDORS ARE NOT ROOMS AND AS SUCH DO



Initial Publish Date: Date Plotted: 12-20-24 Job No.: Drawn By: 23-06 APT/HDM/TMK Sheet No.:

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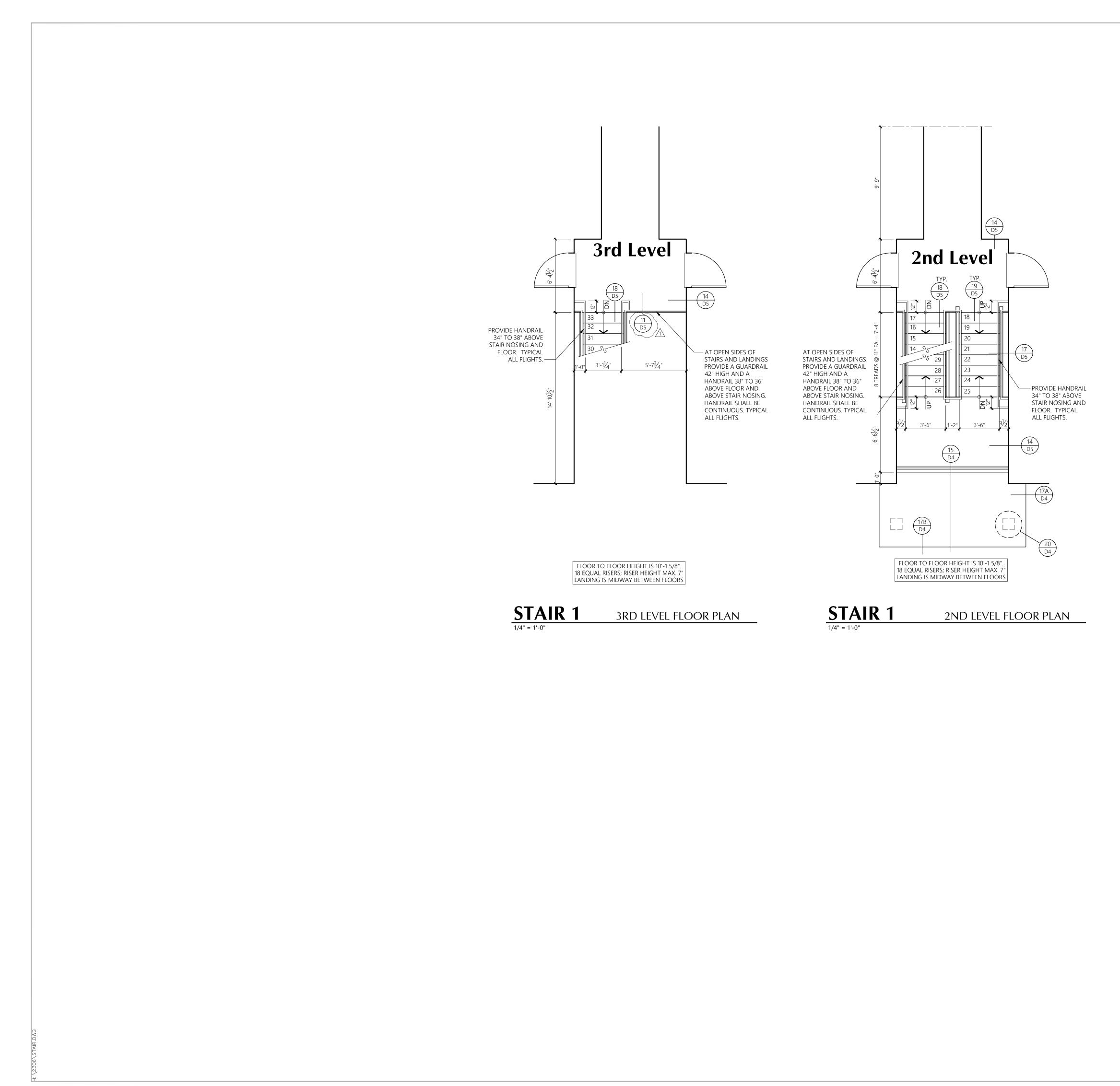
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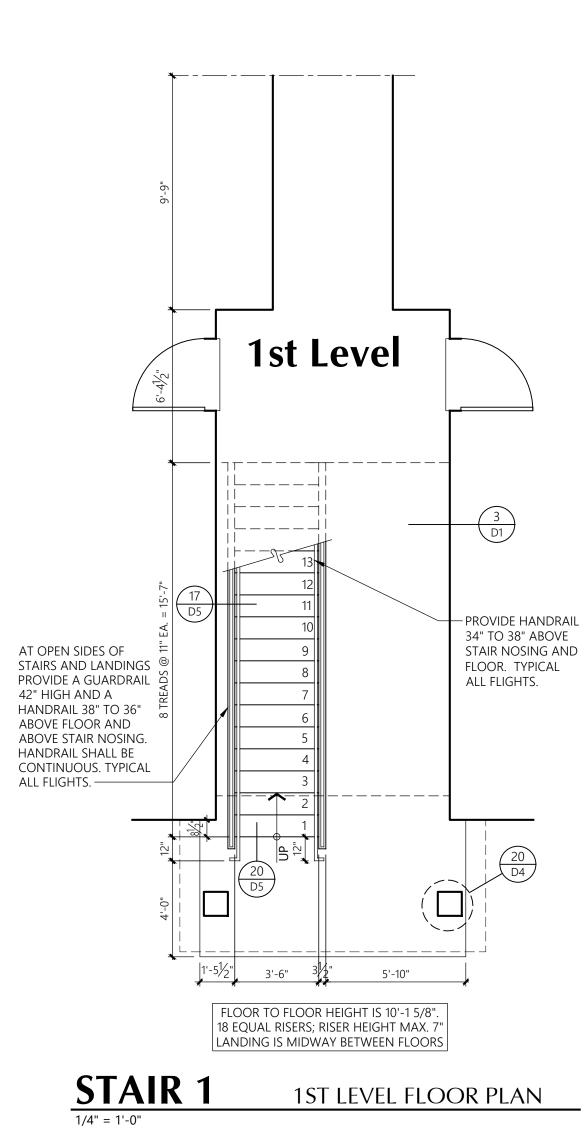
Partners

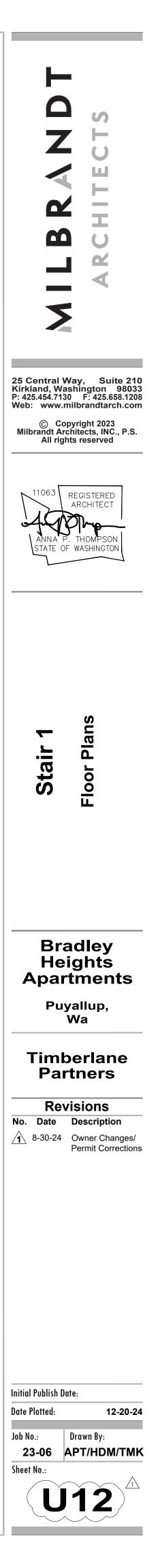
Revisions

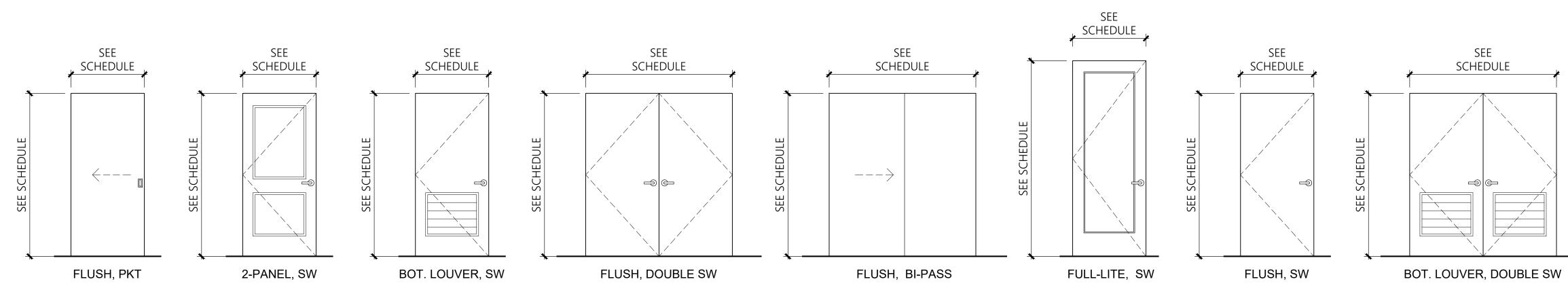
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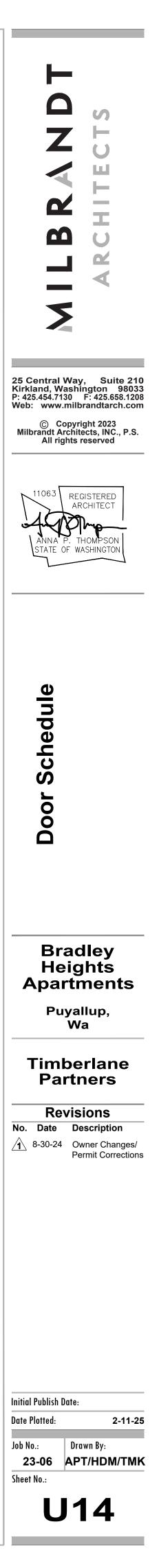
Door Schedule - Units

Door No.	Туре	Size	Thickness Construct Finish Fire Rating		Frame or He	ead/Jamb	Remarks	Min. U	Max.		
							Construct.	Finish		Factor	SHGC
1A	2-Panel, SW	3'-0" x 8'-0"	1-3/4"	INSUL MTL	РР	20 min.	Wood	РР	Keylock, Dead Bolt w/Thumb, Self Closure/Smoke Seal, Flush Threshold, Weatherstrip, Ext. Grade Door, Peep Sight, Self Closing	0.24	-
1B	2-Panel, SW	3'-0" x 8'-0"	1-3/4"	INSUL MTL	PP	90 min.	MTL	PP	Keylock, Dead Bolt w/Thumb, Self Closure/Smoke Seal, Flush Threshold, Weatherstrip, Ext. Grade Door, Peep Sight, Self Closing	0.24	-
2	2-Panel, PKT	3'-0" x 6'-8"	1-3/8"	HCW	РР		Wood	PP	Privacy Lock @ Bath	-	-
3	2-Panel, SW	3'-0" x 6'-8"	1-3/8"	HCW	РР		Wood	PP	Privacy Lock @ Bath	-	-
4	Bot. Louver Dbl, SW	6'-0" x 6'-8"	1-3/8"	HCW	РР		Wood	PP		-	-
5	Full-Lite, SW	3'-0" x 8'-0"	1-3/4"	INSUL MTL	PP		Wood	PP	Keylock, Safety Glass, Flush Threshold, Weatherstrip, Ext. Grade Door	0.24	0.61
6	2-Panel, SW	2'-4" x 6'-8"	1-3/8"	HCW	PP		Wood	PP		-	-
7	2-Panel, SW	2'-6" x 6'-8"	1-3/8"	HCW	PP		Wood	PP		-	-
8	BP	4'-0" x 6'-8"	1-3/8"	HCW	PP		GWB	PP		-	-
9	Bot. Louver, SW	3'-0" x 6'-8"	1-3/8"	HCW	PP		Wood	PP		-	-
10	BP	5'-0" x 6'-8"	1-3/8"	HCW	PP		GWB	PP		-	-
11	2-Panel, SW	2'-0" x 6'-8"	1-3/8"	HCW	PP		Wood	PP		-	-
12	Flush, SW	3'-0" x 8'-0"	1-3/8"	MTL	PP	90 min.	Wood	PP	Lockable from outside, Ext. Grade Door	-	-
13	Flush, Dbl SW	6'-0" x 6'-8"	1-3/8"	INSUL MTL	PP		Wood	PP	Lockable from outside, Ext. Grade Door	0.24	-
14	Flush, SW	3'-0" x 8'-0"	1-3/8"	MTL	РР	20 min.	Wood	PP	Lockable from outside, Ext. Grade Door	-	-

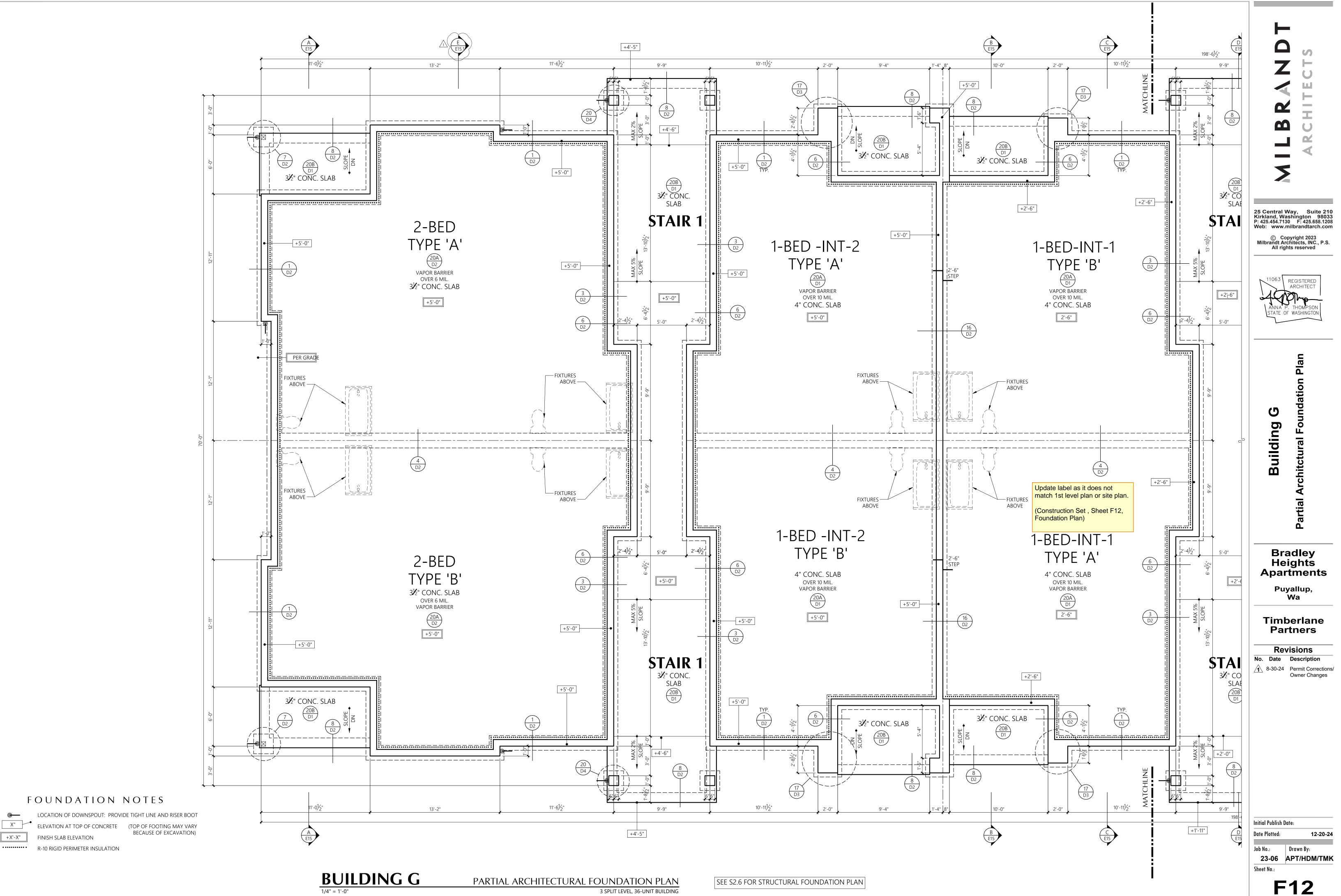
DOOR KEY:

TYPE: SCW = SOLID CORE WOOD MTL = METAL SW = SWING DBL SW = DOUBLE SWING SOHD = SECTIONAL OVERHEAD DOOR PP = PRIME & PAINT FF = FACTORY FINISH



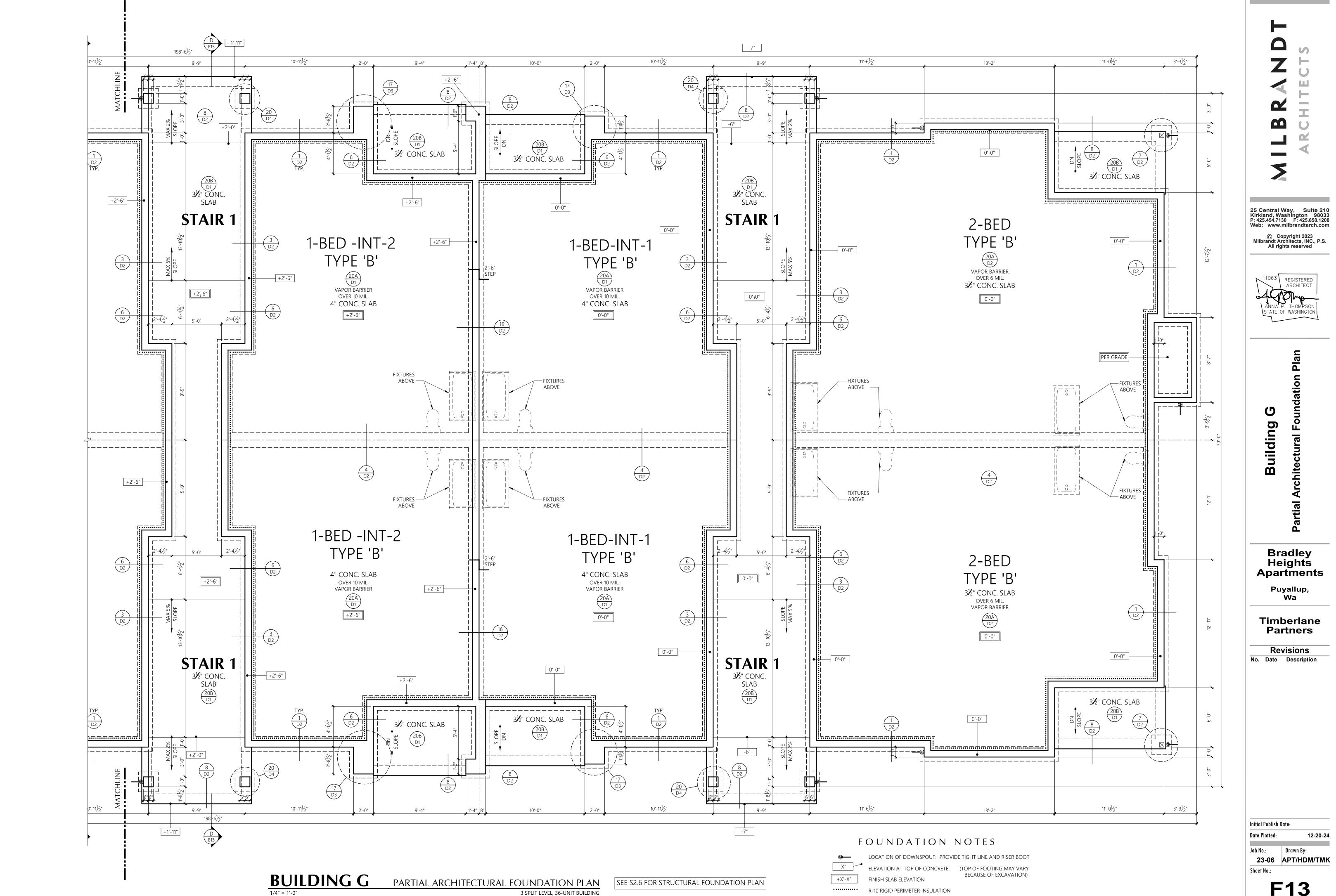


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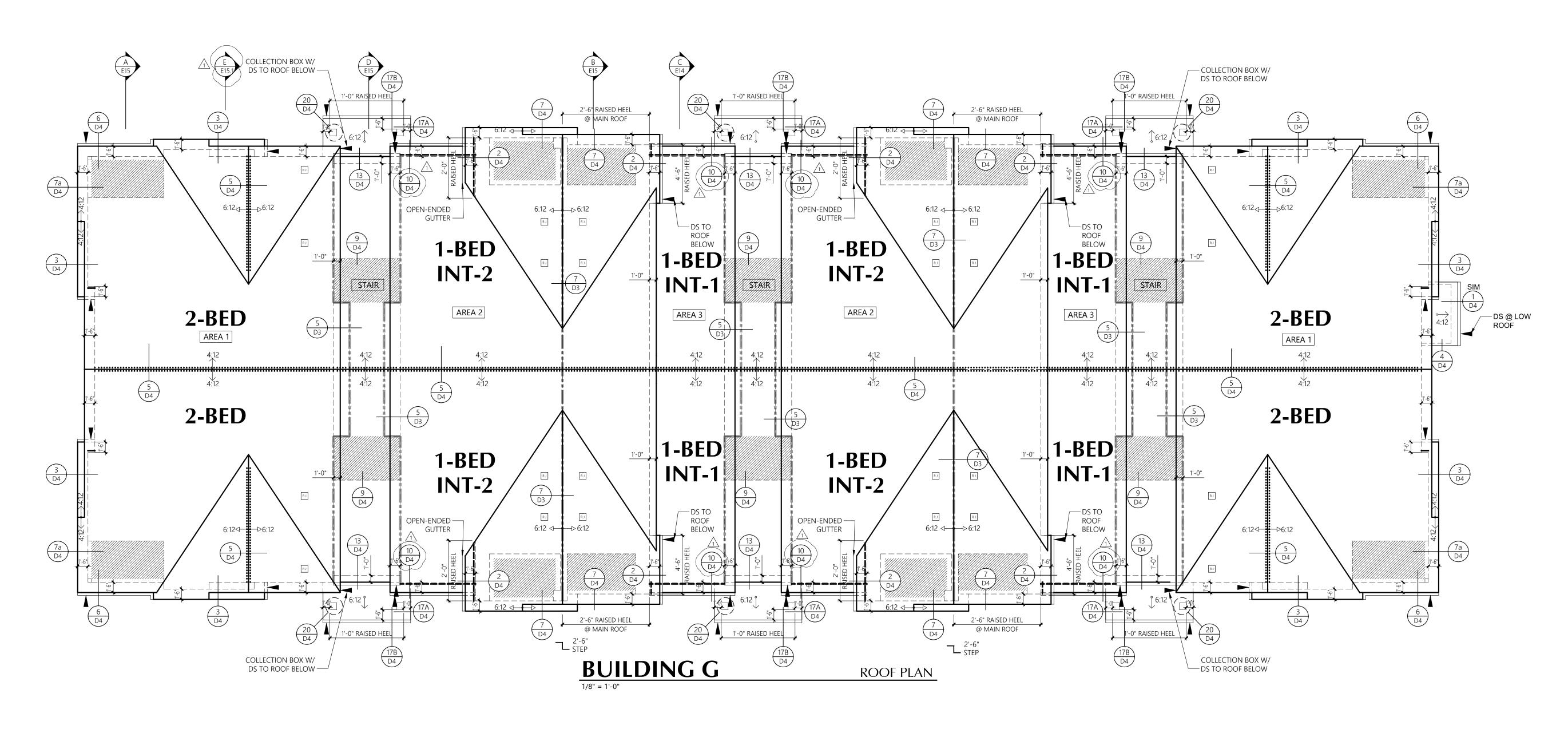


Χ"

+X'-X"



F13



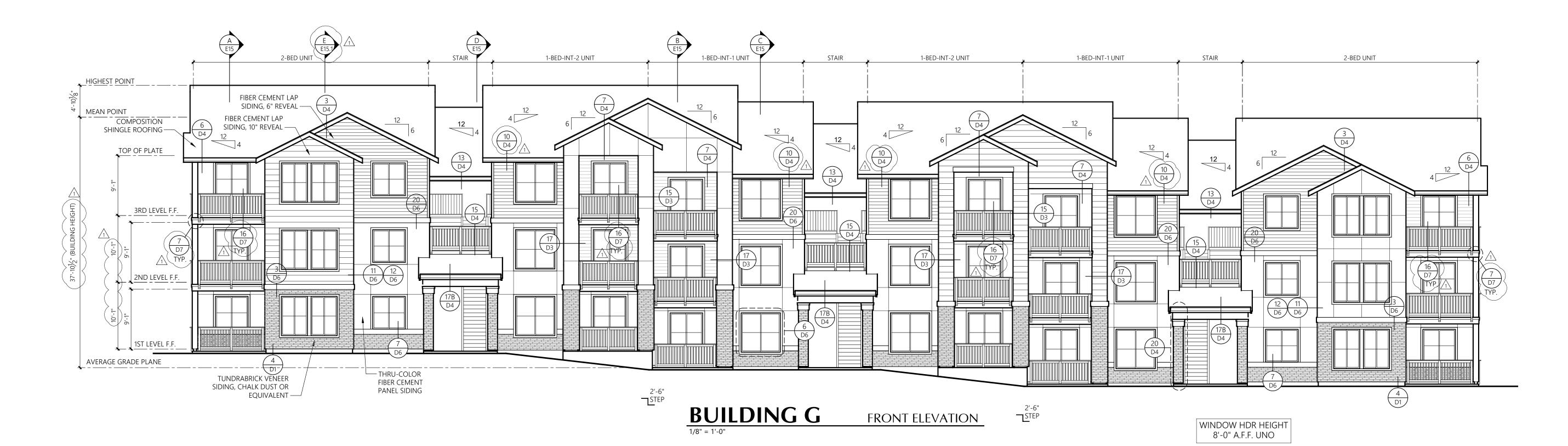
	ROOF LEGEND
RJ	ROOF JACK 50 SQ.IN. NET FREE AREA
\longleftrightarrow	4:12 SLOPE INDICATOR U.N.O.
∢⊸⊷⊳	6:12 SLOPE INDICATOR U.N.O.
	BUILDING OUTLINE
	EAVE VENTING 2.4 SQ.IN./LF. NET FREE AREA
:::::	RIDGE VENTING 12 SQ.IN./LF. NET FREE AREA
	UNIT SEPARATION AND DRAFT STOPPING LOCATIONS AT ATTIC
	GUTTER (DOUBLE LINE)
	DOWNSPOUT LOCATION
	VENTED FIBER CEMENT SOFFIT 5.9 SQ.IN./LF. NET FREE AREA

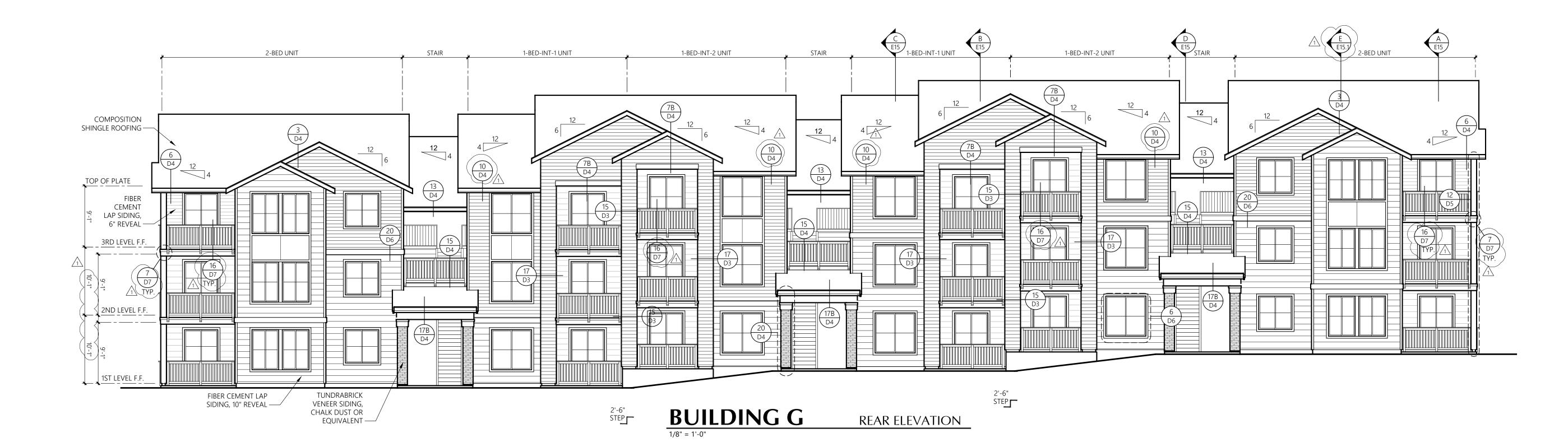
	ROOF VENTING CALCULATIONS														
		tic Area Venting (SF) Ratio		Required Venting	Low Eave Vent (LF)	Low Jacks (Qty)	High Jacks (Qty)	Vented Soffit (SF)	Ridge Vent (LF)		Ver	nting Provi	ded (SI)	* %	of req'd
	(SI)			2.4	50.0	50.0	5.9	12.0	Lower	%	Upper	%	Total	%*	
AREA 1	2,265	1/	300	1,087	0	4	0	116	68	884	52%	816	48%	1,700	156%
AREA 2	1,580	1/	300	758	36	0	4	102	25	688	58%	500	42%	1,188	157%
AREA 3	1,556	1/	300	747	20	0	4	108	24	685	58%	488	42%	1,173	157%
STAIR	492	1/	150	472	0	0	0	124	5	732	92%	60	8%	792	168%

Detail and show draftstops in attic as needed per Washington State Building Code, 708.4.2. Update the attic ventilation as needed based upon changes for draftstops.

(Construction Set, Sheet R7, Unit Plans)

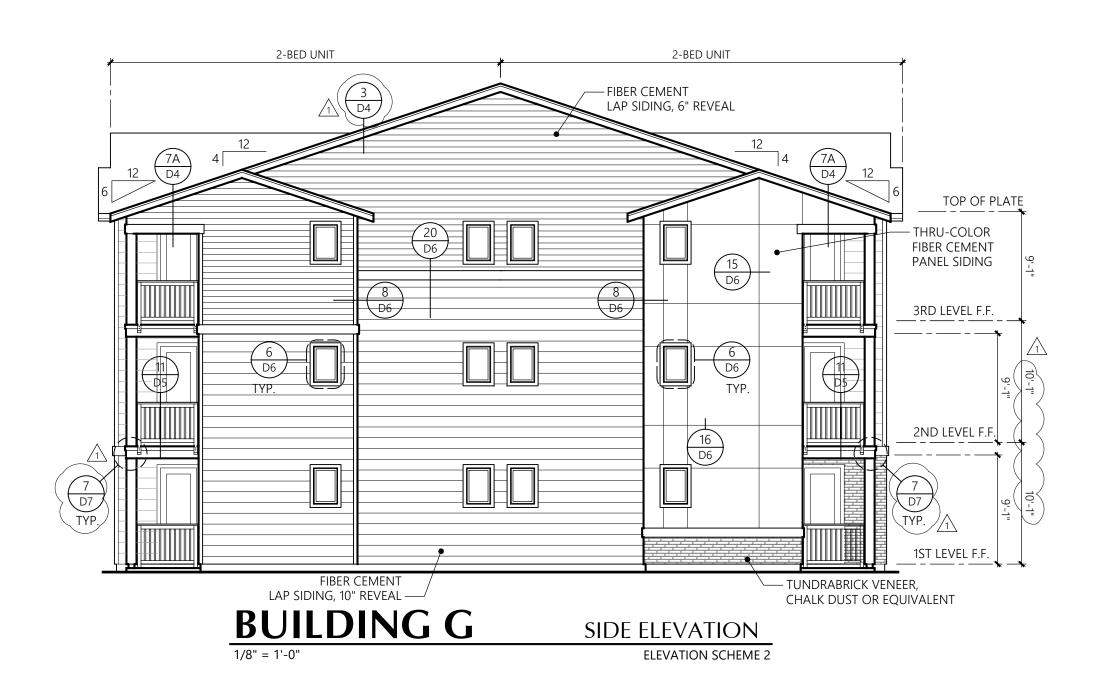


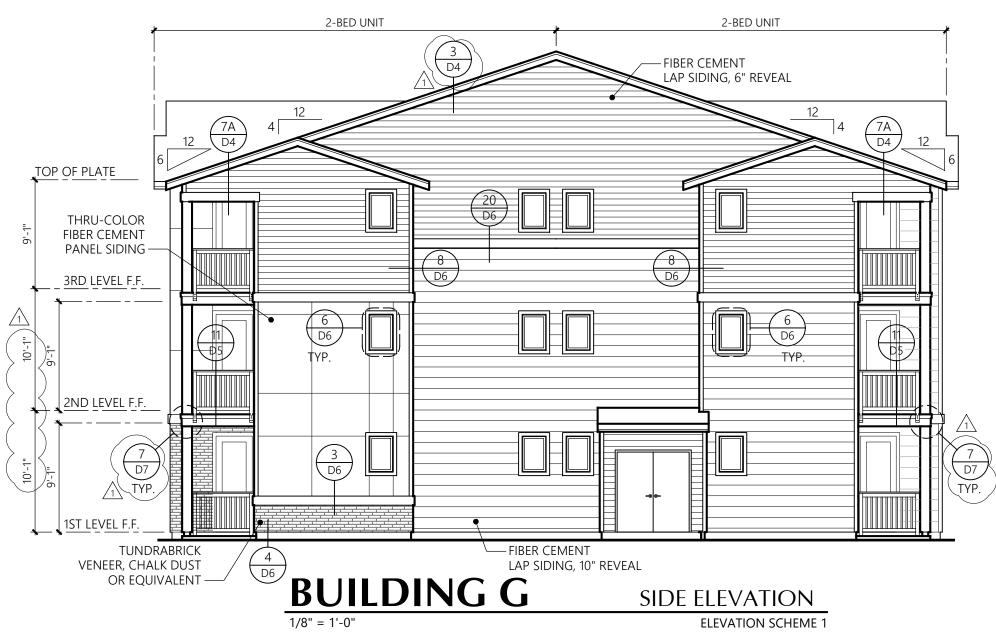


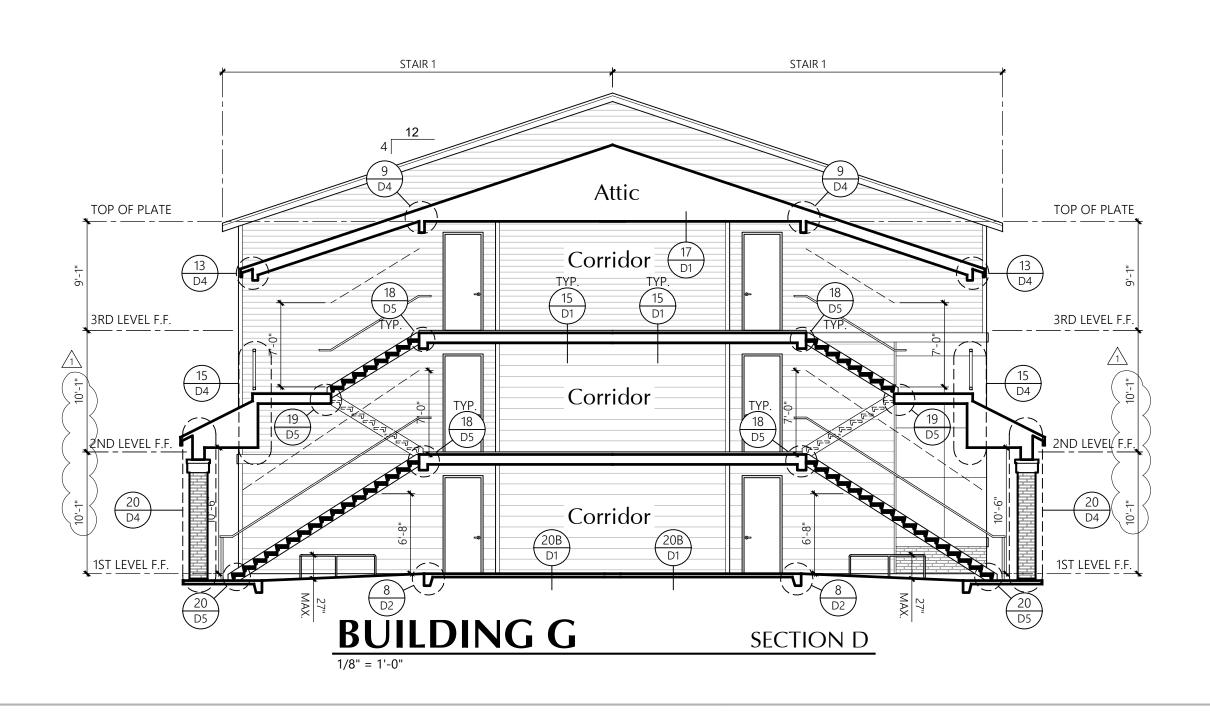


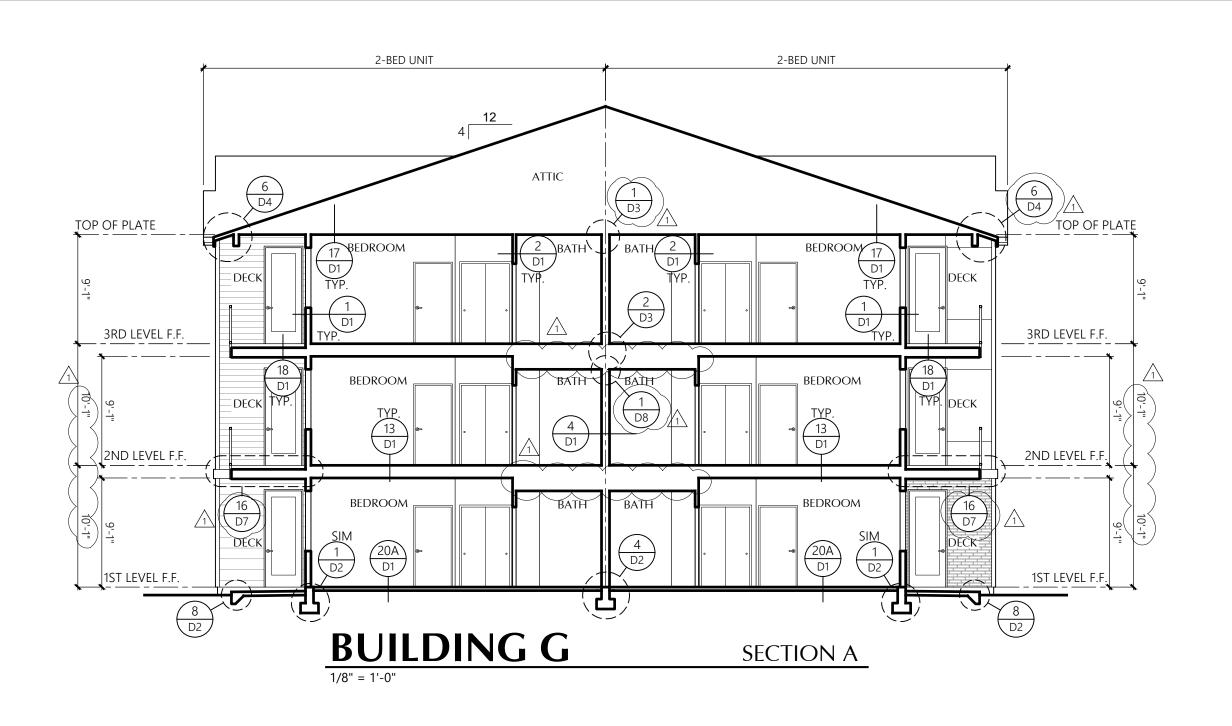


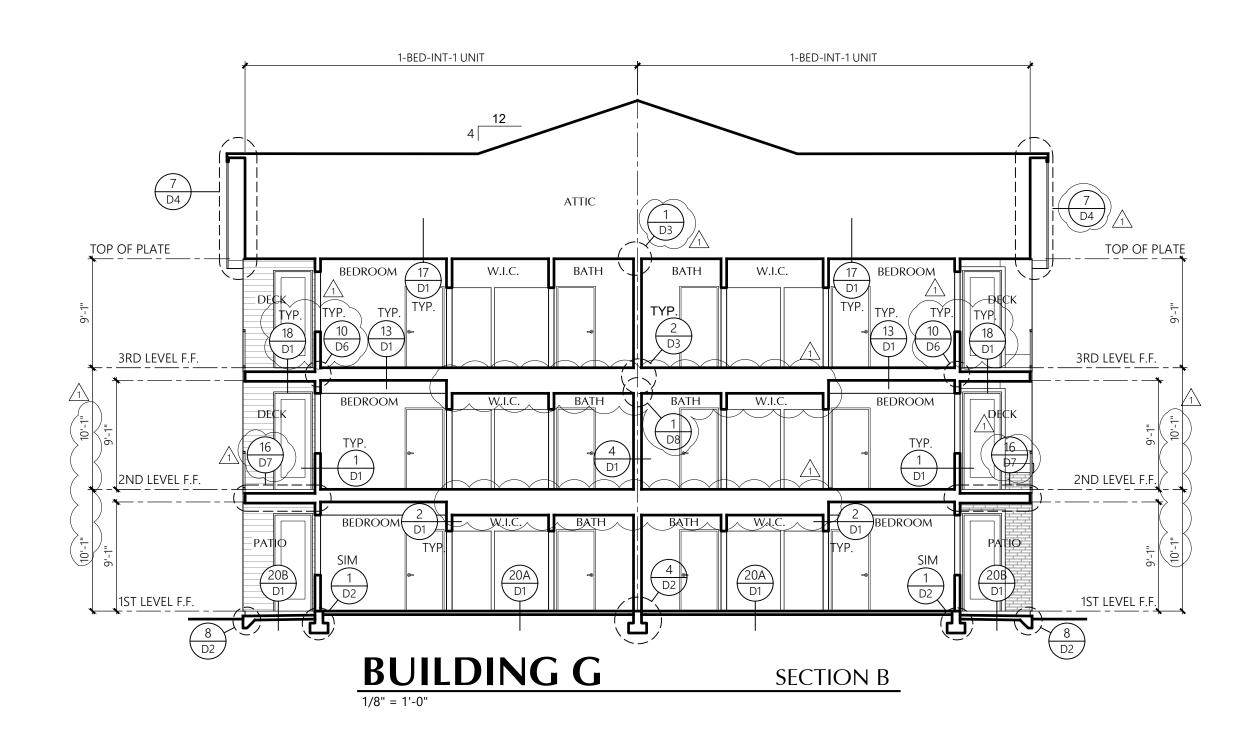
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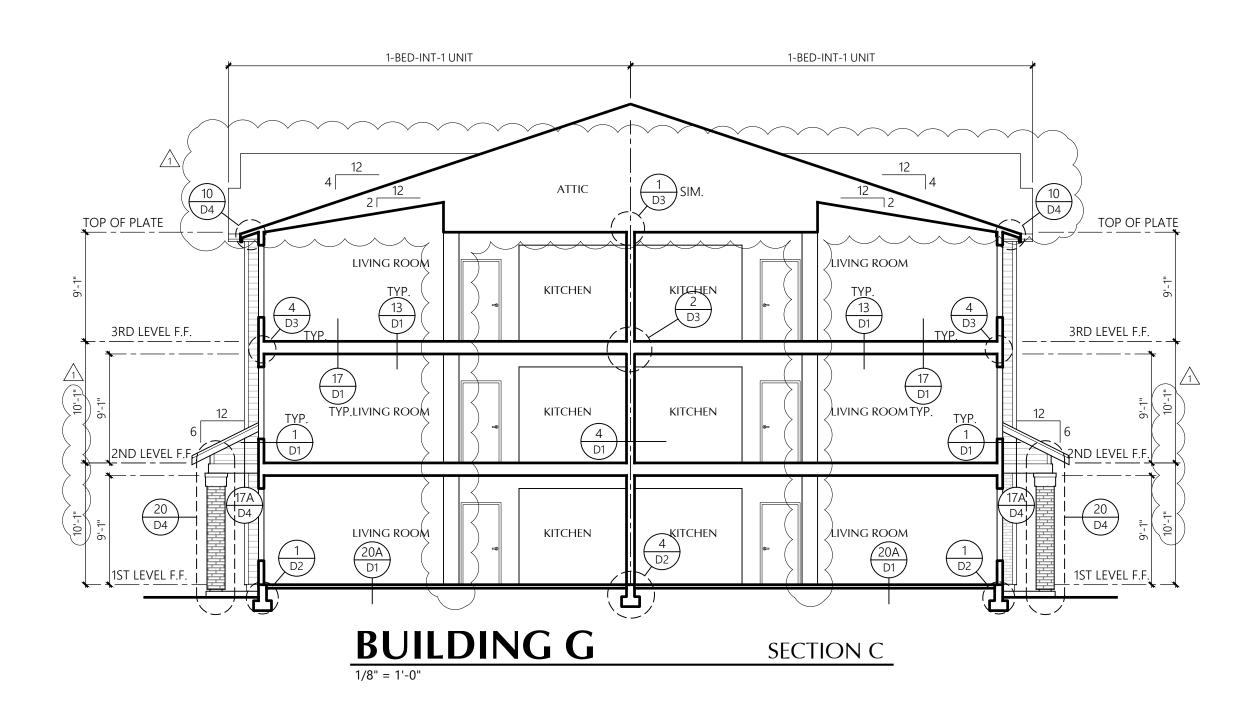






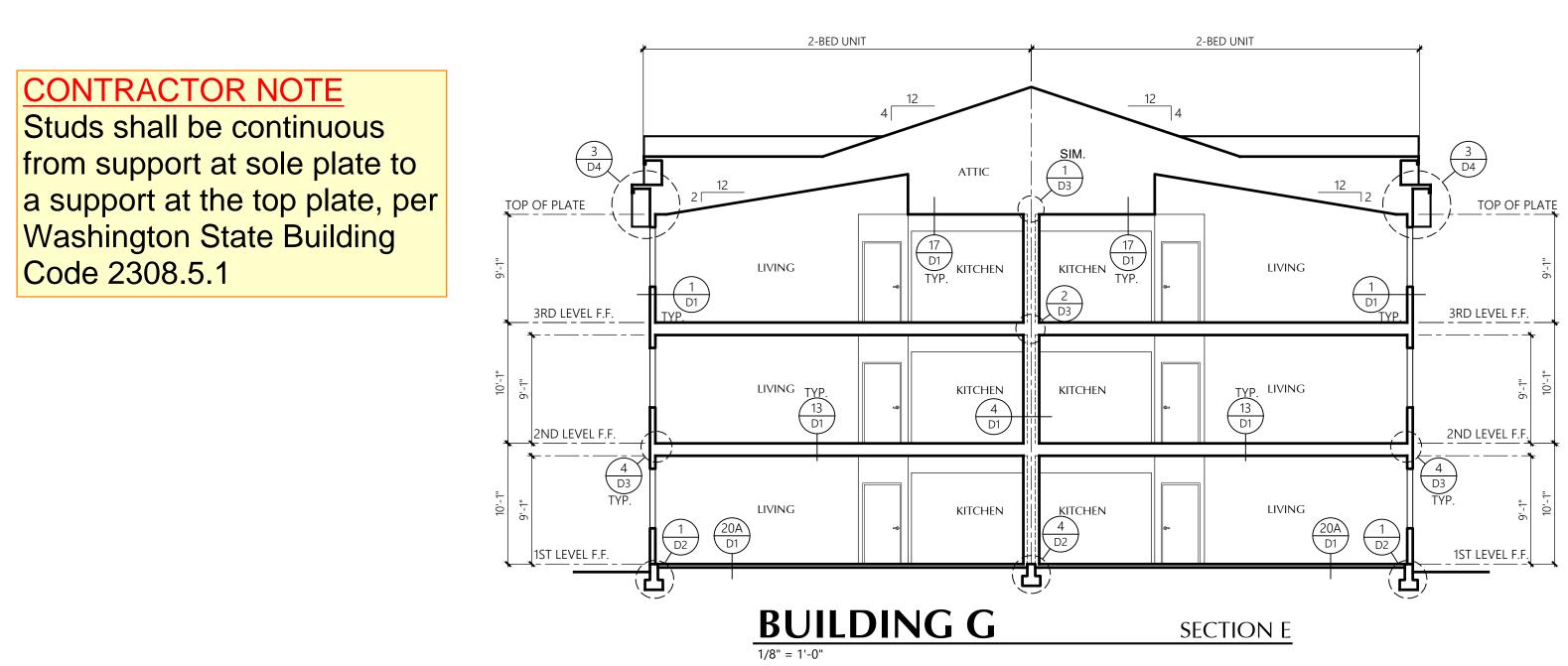






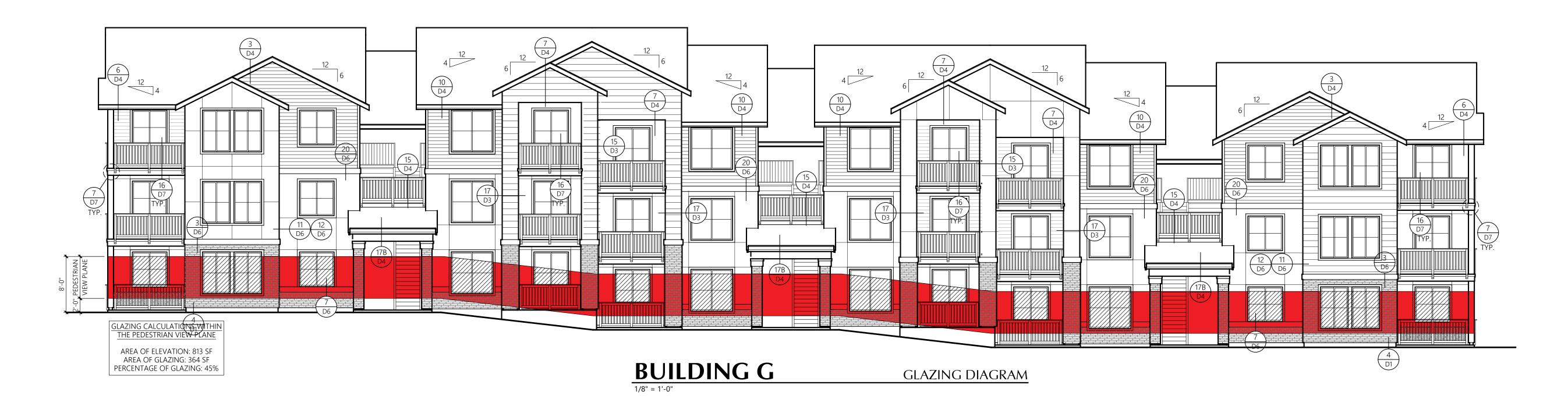




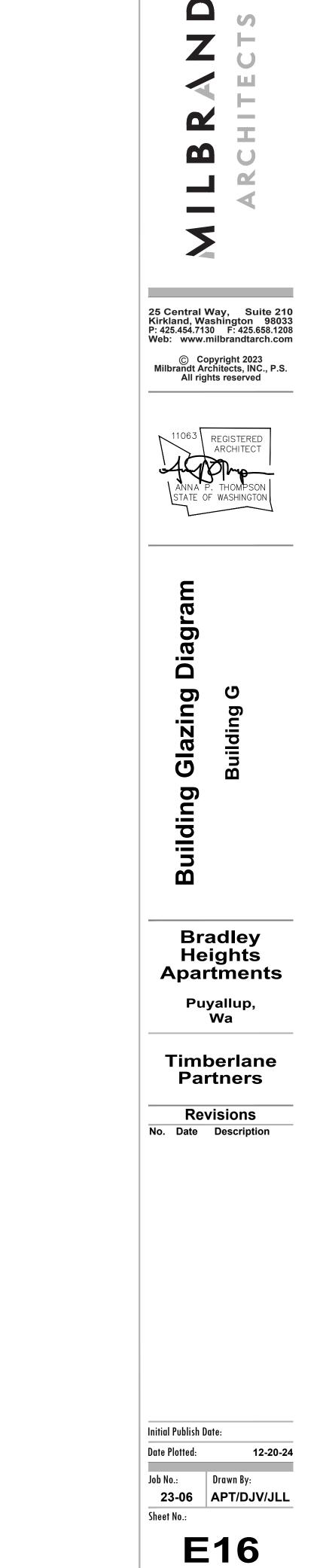




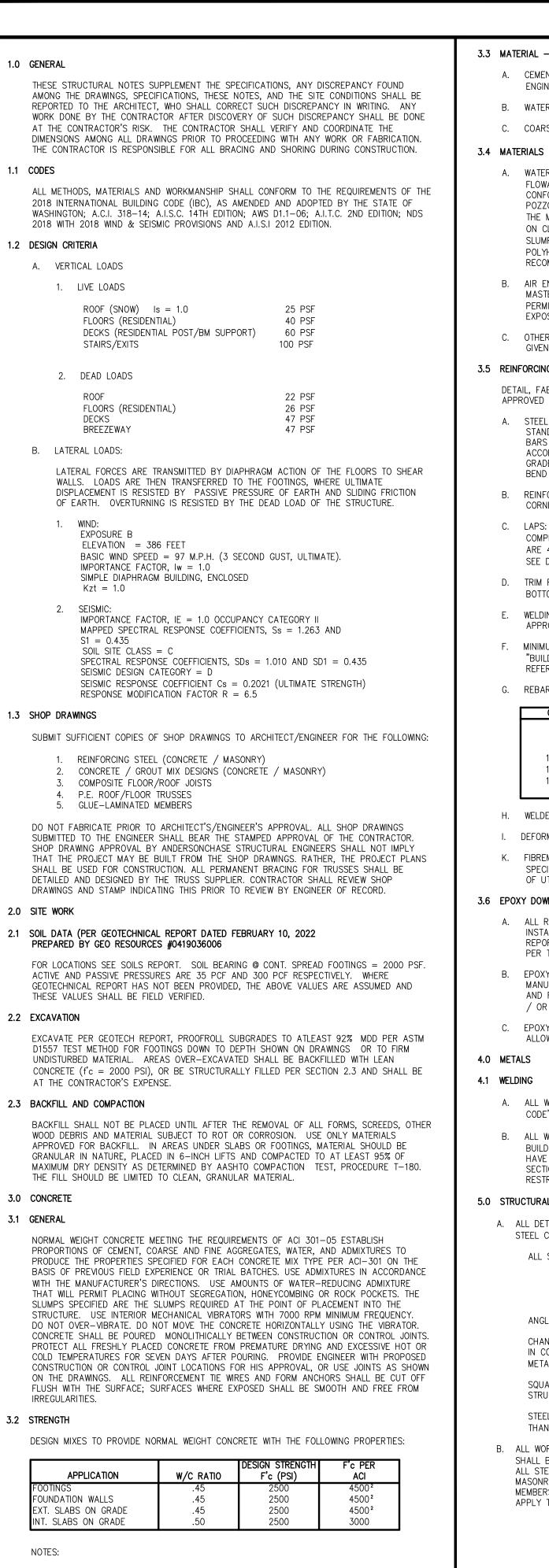
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Structural Notes



- 1. CONCRETE EXPOSED TO WEATHER FOR EXPOSURE CLASS F2 AND SLABS ON GRADE
- SHALL HAVE A MIN F'C PER TABLE AND HAVE 5% AIR ENTRAINMENT. 2. DESIGN STRENGTH F'C (USED IN DESIGN). F'C PER ACI TABLE 19.3.2.1 FOR F2
- EXPOSURE CLASS. 3. PER IBC 1705.3 SPECIAL INSPECTION STRENGTH TESTS NOT REQUIRED FOR CONCRETE f'c>2500 WHERE STRENGTH IS INCREASED FOR DURABILITY.

- 3.3 MATERIAL CEMENT, WATER & AGGREGATES PER ACI 301
- A. CEMENT MUST CONFORM TO ASTM C-150, TYPE I OR TYPE II. ENGINEER'S APPROVAL IS REQUIRED FOR USE OF TYPE III CEMENT.
- B. WATER TO BE CLEAN AND POTABLE.
- C. COARSE AND FINE AGGREGATES TO CONFORM TO ASTM-C33.

- A. WATER REDUCING ADMIXTURES: CONCRETE USING POZZOLITH ADMIXTUR FLOWABLE CONCRETE MAY BE USED WITH THE ENGINEER'S APPROVAL CONFORM TO ASTM-C494, POZZOLITH POLYHEED, POZZOLITH 100XR, POZZOLITH SHALL BE INCORPORATED INTO ALL CONCRETE IN EXACT THE MANUFACTURER'S INSTRUCTIONS. ADMIXTURES AND DOSAGES WIL ON CLIMATIC CONDITIONS AND THE CONTRACTOR'S JOBSITE REQUIREME SLUMP FOR SUCH CONCRETE SHALL NOT EXCEED 8" WITH A MINIMUM POLYHEED PER 100 OUNCES OF CEMENT. USE IN ACCORDANCE WITH RECOMMENDATIONS.
- B. AIR ENTRAINMENT: CONFORM TO ASTM-C260 AND ASTM-C494, MBVF MASTER BUILDER. NO AIR ENTRAINMENT IN COLUMNS WITHOUT PRIOR PERMISSION BY ENGINEER OF RECORD. ENTRAIN 5% +/- 1% AIR BY V EXPOSED CONCRETE.
- C. OTHER ADMIXTURE: NO OTHER ADMIXTURES PERMITTED UNLESS PRIOR GIVEN BY THE ENGINEER. NO ADMIXTURES CONTAINING CHLORIDES ARE

3.5 REINFORCING STEEL

DETAIL, FABRICATE AND PLACE PER ACI-315 AND ACI-318. SUPPORT REIN APPROVED CHAIRS, SPACERS, OR TIES.

- A. STEEL REINFORCEMENT SHALL BE NEW, DEFORMED BILLET STEEL, MEET STANDARD A-615, A-706 AT BOUNDARY ELEMENTS; GRADE 60 FOR BARS UNLESS NOTED OTHERWISE ON THE PLANS. SHOP DRAWINGS S ACCORDINGLY AND SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR GRADE 60 REBARS SHALL NOT BE BENT IN FIELD AFTER CONCRETE BEND SHALL BE PER ACI.
- B. REINFORCEMENT IN ALL WALLS, SLABS, AND FOOTINGS SHALL BE CON CORNERS OR CORNER BARS PROVIDED, BOTH VERTICAL AND HORIZON
- C. LAPS: ALL TENSION SPLICES ARE ACCORDING TO ACI 318, CLASS B A COMPRESSION SPLICES ARE 30 DIAMETERS FOR I'C GREATER THAN 30 ARE 40 DIAMETERS FOR I'C WHICH IS LESS THAN 3000 PSI, UNLESS I SEE DETAIL 17/S3.0 FOR TYPICAL SPLICE AMOUNTS BASE ON BAR SIZ
- D. TRIM REINFORCING: AROUND ALL OPENINGS SHALL BE A MINIMUM 1-BOTTOM, EXTENDING 2'-6" BEYOND OPENING AT EACH CORNER. SEE
- WELDING: TACK WELDING OF REBAR IS NOT PERMITTED UNLESS CALLED APPROVED BY THE ENGINEER.
- MINIMUM REINFORCING: WHERE REINFORCEMENT IS NOT SHOWN ON THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318 REFERRED TO FOR PROPER REINFORCEMENT.

G. REBAR COVER: PROVIDE CONCRETE PROTECTION FOR REINFORCEMEN

COVER	CONDITION
3"	CONCRETE DEPOSITED AGAINST EARTH
2"	CONCRETE DEPOSITED AGAINST FORMS BUT
	EXPOSED TO EARTH
1-1/2"	MAIN REINFORCING IN BEAMS
1-1/2"	TO TIES IN COLUMNS, AND TIED REBAR IN WALLS
1-1/2"	TO TIES IN COLUMNS, AND TIED REBAR IN WALLS FOR BARS IN SLABS ON GROUND
3/4"	FOR BARS IN SLABS ON FORMS

- H. WELDED WIRE FABRIC: ASTM-A185 AND ASTM-A82
- I. DEFORMED BAR ANCHORS: ASTM-A496
- K. FIBREMESH: PROVIDE FIBREMESH STRANDS WITHIN CONCRETE PER THE SPECIFICATION (1.5#/CU. YARD TYPICALLY) WHERE REQUIRED BY THE OF UTILIZING WELDED WIRE FABRIC WITHIN SLABS ON GRADE.

3.6 EPOXY DOWELED REINFORCEMENT

- A. ALL REINFORCEMENT WHICH IS TO BE DOWELED INTO EXISTING CONCRE INSTALLED USING THE SIMPSON SET-XP ADHESIVE ANCHORING SYSTEM REPORT ESR-2508 OR APPROVED EQUAL. ADHESIVE ANCHORS SHALL PER THE MANUFACTURERS SPECIFICATIONS OR APPROVED EQUAL.
- B. EPOXY SHALL BE MIXED, APPLIED, AND CURED IN ACCORDANCE WITH MANUFACTURERS GUIDELINES. REINFORCEMENT AND CONCRETE SHALL AND FREE OF IRREGULARITY. EPOXY SHALL NOT BE MIXED OR CURE / OR CONCRETE TEMPERATURES BELOW MINIMUM PER MANUFACTURE
- C. EPOXY DOWELING OF REINFORCEMENT IN OVERHEAD APPLICATIONS SHA ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER OF

- A. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL CODE" & D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL."
- B. ALL WELDING SHALL BE DONE BY AWS/WABO (WASHINGTON STATE AS BUILDING OFFICIALS) CERTIFIED WELDERS. FOR ALL MOMENT FRAMES HAVE ADDITIONAL CERTIFICATION SHOWING QUALIFIED IN ACCORDANCE SECTION 5, WELDER QUALIFICATION, THE SUPPLEMENTAL WELDER QUAL RESTRICTED ACCESS WELDING.

5.0 STRUCTURAL STEEL

A.	ALL DETAILING, STEEL CONSTRU		,						
	ALL STEEL,	UNO		,	ASTM	A992			

ALL STEEL, UNO	ASTM A992.
	ASTM A572, GRADE 50, A447, Fy = 50 KSI OR A588 Fy = 50 KS PRIOR APPROVAL OF ENGINEER OF
ANGLES	ASTM A36, Fy = 36 ksi
CHANNELS, EMBEDMENTS IN CONCRETE AND MISC. METALS, UNO	ASTM A36, Fy = 36 ksi OR STEEL TYPES LISTED UNDER "ALL STEEL"
SQUARE AND RECTANGULAR STRUCTURAL TUBES	ASTM A500, GRADE B, $Fy = 46$ ks

- STEEL PIPE DIAMETER LESS ASTM A53, TYPE E OR S,
- THAN OR EQUAL TO 12" NOM GRADE B, Fy = 35 ksi B. ALL WORK SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATION. SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER BEFORE COMMENCING ALL STEEL ANCHORS AND TIES AND OTHER MEMBERS EMBEDDED IN CON MASONRY SHALL BE LEFT UNPAINTED. DIMENSIONAL TOLERANCE FOR BU MEMBERS SHALL BE PER AWS D1.1. GENERAL NOTES FOR STEEL CONNE APPLY TO ALL STEEL CONNECTIONS, UNO.

	C. STEEL BEAMS ARE EQUALLY SPACED BETWEEN DIMENSIONAL POINTS. MINIMUM CONNECTIONS SHALL BE A TWO-BOLT CONNECTION USING 7/8-INCH DIAMETER A325 BOLTS IN SINGLE SHEAR. OPTIONAL TO USE F1554 BOLTS WITH PRIOR APPROVAL OF ENGINEER OF RECORD. ALL HIGH-STRENGTH BOLTS SHALL BE	7.8 MANUFACTURED TIMBER BEAMS A. GLULAMINATED TIMBER BEAMS (GLULAM BEAMS)
	INSTALLED, TIGHTENED AND INPSECTED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. THE CRITERIA FOR SLIP-CRITICAL CONNECTIONS SHALL APPLY TO ALL CONNECTIONS UNLESS SPECIFICALLY NOTED AS SNUG TIGHT ON THE STRUCTURAL DRAWINGS. WHERE CONNECTIONS ARE NOTED SNUG TIGHT THE CONTRACTOR MAY INSTALL PER CRITERIA FOR SNUG TIGHT BOLTS. SLIP CRITICAL CONNECTIONS SHALL USE LOAD INDICATOR WASHERS OR TENSION CONTROL BOLTS. ALL ASTM A307 BOLTS SHALL BE PROVIDED WITH LOCK WASHERS UNDER NUTS OR SELF-LOCKING NUTS. ALL	ALL STRUCTURAL GLUE-LAMINATED TIMBER, MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH VOLUNTARY PRODUCT STANDARD P.S.56 "STRUCTURAL GLUED LAMINATED TIMBER", AND ALL MEMBERS SHALL BE MARKED WITH A QUALITY MARK THEREOF. ALL PLY LAYOUTS SHALL BE PER P.S. 56. CAMBERS ARE AS SHOWN ON THE DRAWINGS. ALL MEMBERS SHALL BE EITHER COMBINATION 24F-V4 (SIMPLE SPAN) OR 24F-V8 (CANTILEVERED OR CONTINUOUS SPAN) AS APPLICABLE. ALL
RES TO PRODUCE . AND MUST OR POZZUTECH 20. ACCORDANCE WITH	BOLT HOLES SHALL BE STANDARD SIZE, UNO. D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS THAT INCLUDE, BUT	MEMBERS SHALL BE ARCHITECTURAL APPEARANCE AND SHALL BE GLUED WITH WATERPROOF ADHESIVE PER P.S. 56. ARCHES SHALL BE COMBINATION 24F-V8 AND HAVE EXTERIOR GLUE, ARCHITECTURAL GRADE.
ILL VARY DEPENDING IENTS. MAXIMUM 1 OF 10 OUNCES OF	ARE NOT LIMITED TO: ERECTION ANGLES; LIFT HOLES, AND OTHER AIDS. E. METAL PROTECTION – ALL MISCELLANEOUS STEEL AND HARDWARE EXPOSED TO VIEW OR MILLINUELTER REPORTED AND ALL MISCELLANEOUS STEEL AND HARDWARE EXPOSED TO VIEW OR	7.9 SHRINKAGE WOOD MEMBERS WERE EVALUATED USING KILN DRIED (KD) OR SURFACE DRIED (SD) LUMBER
MANUFACTURER'S	IN UNHEATED PORTION OF BUILDING SHALL BE GALVANIZED PER ASTM A-123 WITH 1.25 OZ OF ZINC SPELTER PER SQUARE FOOT OF SURFACE AREA. ALL OTHER STEEL SURFACES TO BE SHOP PAINTED AFTER FABRICATION.	(HEM-FIR WITH MOISTURE CONTENT = 19% OR LESS). THE FLOOR TO FLOOR COMPRESSION OF SUCH WOOD MEMBERS (PLATES AND JOISTS TOTALING 15.25") DUE TO A MOISTURE CONTENT CHANGE OF 10% WILL BE APPROXIMATELY 3/8 INCHES PER FLOOR. ADDITIONAL
R OR MICRO-AIR BY R WRITTEN VOLUME IN ALL	F. ALL STEEL BEAM COPING SHALL CONFORM TO AISC STANDARD PRACTICE.G. GROUT FOR BEARING PLATES SHALL BE NON-SHRINK EMBECO BY MASTER BUILDERS, INC. OR APPROVED EQUAL.	FLOOR TO FLOOR COMPRESSION OF WOOD STUDS DUE TO FULL COMPRESSIVE LOAD WILL BE APPROXIMATELY 1/32 INCHES PER FLOOR. ADDITIONAL COMPRESSION OF WOOD FRAMING MAY OCCUR DUE TO FRAMING TECHNIQUES AND LOCAL STRESS CONCENTRATIONS. ALL FULL BUILDING HEIGHT ELECTRICAL, MECHANICAL, AND PLUMBING SYSTEMS AS WELL AS EXTERIOR FINISHES SHOULD BE DESIGNED TO ACCOMMODATE THESE MOVEMENTS. USE OF WOOD STUDS,
APPROVAL IS E PERMITTED.	ALL EXPOSED STRUCTURAL MATERIALS OR MATERIAL IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED (SEE SECTION 7.10). 6.0 LIGHT GAUGE STEEL	PLATES & JOISTS WHICH WILL HAVE MOISTURE CONTENT CHANGES GREATER THAN 10% WILL EXPERIENCE GREATER MOVEMENT. FLOOR ASSEMBLIES UTILIZING DEPTHS GREATER THAN THOSE ASSUMED ABOVE MAY EXPERIENCE GREATER MOVEMENTS. LOCALIZED HEADERS MAY EXPERIENCE SIMILAR SHRINKAGE AS DESCRIBED ABOVE.
NFORCEMENT WITH	7.0 CARPENTRY	7.10 PRESERVATIVE TREATMENT
TING ASTM #3 AND LARGER	7.1 ROUGH CARPENTRY ALL 2x FRAMING LUMBER SHALL BE STUD GRADE HEM—FIR FOR STUDS AND STANDARD	A. PRESERVATIVE TREATMENTS SEE ARCH FOR ALL PRESERVATIVE TREATED REQUIREMENTS AND FINISHES OF EXPOSED
SHALL BE MARKED TO FABRICATION. PLACEMENT. ALL ITINUOUS AROUND	OR BETTER FOR PLATES UNLESS OTHERWISE NOTED ON THE DRAWINGS OR BELOW. ALL 2" LUMBER SHALL BE KILN DRIED (KD) OR SURFACE DRIED (SD). EACH PIECE OF LUMBER SHALL BEAR THE STAMP OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB) OR WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) SHOWING GRADE MARK OR APPROVED EQUAL. OTHER MATERIALS SHALL BE AS SHOWN BELOW:	TIMBER MEMBERS AND AT EXTERIOR CONDITIONS. ALL EXPOSED FRAMING LUMBER, PLYWOOD AND DECK MATERIALS SHALL BE PRESSURE TREATED PER AWPA SPECIFICATION P-5 OR OTHER APPROVED TREATMENT. ALL CUTTING AND BORING AFTER PRESSURE TREATMENT SHALL BE CARED FOR IN ACCORDANCE WITH AWPA SPECIFICATION M-4.
AND ALL 000 PSI AND NOTED OTHERWISE.	MEMBERSPECIES2x & 3x STUDSSTUD GRADE HEM FIR2x JOISTS#2 HEM FIR4x HEADERS#2 HEM FIR	ACZA PRESERVATIVE TREATMENT SHALL NOT BE PERMITTED EXCEPT WHERE HARDWARE (INCLUDING NAILS) IN CONTACT WITH THE TREATED PRODUCT IS COMPOSED ENTIRELY OF STAINLESS STEEL MATERIAL. STAINLESS STEEL HARDWARE SUBSTITUTED FOR HDG PRODUCTS SHALL MEET OR EXCEED THE STRENGTH AND PERFORMANCE OF THE
IZE. #5 TOP AND	6x HEADERS #2 DOUGLAS FIR 4x COLUMNS #2 HEM FIR 6x COLUMNS #2 DOUGLAS FIR	SUBSTITUTED HDG PRODUCT ORIGINALLY SPECIFIED. B. GALVANIZATION OF HARDWARE (EXPOSED OR IN CONTACT WITH PRESERVATIVE TREATED
TYPICAL DETAILS.	ALL EXPOSED STRUCTURAL MATERIALS OR MATERIAL IN CONTACT WITH CONCRETE SHALL	WOOD) 1. PROTECTED ENVIRONMENT
E DRAWINGS, THE	BE PRESSURE TREATED (SEE SECTION 7.10). 7.3 PRE-ENGINEERED ROOF TRUSSES	ALL HARDWARE (HANGERS, NAILS, BOLTS, LAG SCREWS, FLASHING ETC) SHALL BE HOT-DIP GALVANIZED (HDG) TO A MINIMUM COATING LEVEL OF G185 (1.85
T AS FOLLOWS:	ALL PREFABRICATED WOOD ROOF AND FLOOR TRUSSES SHALL BE DESIGNED BE OR UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE STRUCTURE IS LOCATED. THE TRUSS SHOP DRAWINGS SHALL BEAR THE STAMP OF THAT ENGINEER. ALL NECESSARY BRIDGING, BLOCKING, PRE-NOTCHED PLATES, HANGERS, ETC. SHALL BE DETAILED OR SPECIFIED, AND FURNISHED BY THE MANUFACTURER. ALL	oz/ft2 OF ZINC) WHEN IN CONTACT WITH PRESERVATIVE TREATED WOOD CONTAINING PRODUCTS SUCH AS, BUT NOT LIMITED TO; CCA, ACQ, OR CBA. HDG PRODUCTS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS AS APPLICABLE; ASTM A653, ASTM A123, AND ASTM A153. WHEN USING STAINLESS STEEL OR HOT-DIP GALVANIZED CONNECTORS, THE CONNECTORS AND FASTENERS SHALL BE OF THE SAME MATERIAL.
	PERMANENT BRACING FOR TRUSSES SHALL BE DETAILED AND DESIGNED BY THE TRUSS SUPPLIER. THE TRUSS MANUFACTURER SHALL VERIFY ALL SETBACKS, DIMENSIONS, AND BEARING POINTS PRIOR TO FABRICATION. MAXIMUM ALLOWABLE DEFLECTIONS SHALL BE AS	2. EXPOSED ENVIRONMENT
	FOLLOWS: ROOF TOTAL LOAD SPAN/240 OR 1.5"	ALL HARDWARE (INCLUDING CONNECTORS) IN CONTACT WITH PRESSURE TREATED WOOD IN AN EXPOSED OR POTENTIAL TO BE EXPOSED ENVIRONMENT (HAVING
	ROOF LIVE LOAD SPAN/360 OR 1" TRUSSES SHALL BE DESIGNED FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS AND	POTENTIAL FOR WIND BLOWN RAIN TO REACH) SHALL BE STAINLESS STEEL. 8.0 MECHANICAL AND EPOXY FASTENERS
	SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S PUBLISHED SPECIFICATIONS. ADDITIONAL CONCENTRATED LOADS FROM MECHANICAL UNITS,	A. MECHANICAL FASTENERS (PRE-DRILLED ANCHORS)
E MANUFACTURERS OWNER IN LIEU	AND MISCELLANEOUS EQUIPMENT, ETC. SHALL BE ACCOUNTED FOR/COORDINATED WITH THE SUB-CONTRACTORS, ARCHITECT AND TRUSS ENGINEER. ALTERATION OF THE TRUSS LAYOUT INDICATED ON THE PLANS MAY REQUIRE SUPPORTING STRUCTURAL AND FOUNDATION CHANGES, THEREFORE PRIOR APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER IS REQUIRED. TRUSSES SHALL NOT BE FIELD ALTERED PRIOR TO WRITTEN APPROVAL OF THE ENGINEER OF RECORD DESIGNING THE TRUSSES.	 TYPICAL MECHANICAL ANCHORS WHICH ARE INSTALLED IN CONCRETE SHALL BE AS MANUFACTURED BY THE SIMPSON, INC. AND SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURERS GUIDELINES AND PER ICC REPORT ESR-1771 FOR WEDGE ANCHORS OR PER ICC REPORT ESR-2713 FOR SCREW TYPE ANCHORS OR APPROVED EQUALS.
ETE SHALL BE M PER ICC L BE INSTALLED	TRUSS CONNECTIONS TO NON-LOAD BEARING WALLS SHALL BE PER THE TYPICAL DETAILS. SLIDE CLIPS SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER. 7.4 CARPENTRY HARDWARE	2. SPECIAL CARE SHALL BE TAKEN DURING THE DRILLING / INSTALLATION OF FASTENERS WITHIN POST-TENSIONED CONCRETE. ANCHORS SHALL BE INSTALLED IN SUCH A MANNER SO AS NOT TO INTERFERE WITH / DAMAGE REINFORCEMENT.
THE	A. BOLTS SHALL BE ASTM A-307.	B. EPOXY CONNECTIONS (PRE-DRILLED ANCHORS)1. ADHESIVE ANCHORS SHALL BE OF THE SIZE AND LENGTH AS CALLED OUT ON THE
L BE CLEAN D IN AIR AND R'S SPECIFICATIONS.	B. WASHERS SHALL BE STANDARD CUT WASHERS OR MALLEABLE IRON WASHERS.C. ALL NAILS SHALL BE COMMON WIRE NAILS OR EQUIVALENT PNEUMATICALLY DRIVEN	PLANS USING THE SIMPSON SET-XP ADHESIVE ANCHORING SYSTEM PER ICC REPORT ESR-2508 OR APPROVED EQUAL. ADHESIVE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS.
ALL NOT BE F RECORD.	NAILS (P-NAILS), AMERICAN OR CANADIAN MANUFACTURER ONLY AS INDICATED BELOW. P-NAILS SHALL BE INSTALLED PER THE MANUFACTURERS GUIDELINES.	 ALL EPOXY ANCHORS OR FASTENERS REQUIRE SPECIAL INSPECTION. ANCHORS SHALL BE INSTALLED IN SUCH A MANNER SO AS NOT TO INTERFERE
	COMMON WIRE PNEUMATIC MINIMUM NAIL NAIL NAIL NAIL LENGTH APPLICATION 16d COMMON 0.162" P-NAIL 3-1/2" FRAMING	WITH / DAMAGE REINFORCEMENT. 9.0 SPECIAL INSPECTIONS:
L WELDING	12d COMMON 0.148" P-NAIL 3-1/4" FRAMING N/A 0.131" P-NAIL 3" FRAMING	SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1704 OF THE 2018 IBC AND ARE REQUIRED DURING THE FOLLOWING:
SSOCIATION OF	10d COMMON0.148" P-NAIL2-1/2"SHEATHING8d COMMON0.131" P-NAIL2-1/2"SHEATHING	A. THE EXCAVATION OF FOOTINGS PRIOR TO CONCRETE PLACEMENT,
WELDERS SHALL E WITH AWS D1.8, ALIFICATION FOR	D. LAG SCREWS, SHEAR PLATESE. ANCHORS AND CONNECTORS SHALL BE SIMPSON, USP, OR OTHER ICBO APPROVED.	B. THE TAKING OF CONCRETE TEST SPECIMENS. SEE PARAGRAPH 3.2, NOTE 4 FOR EXCEPTION WITH I'C GREATER THAN 2500 PSI.
	F. HARDWARE EXPOSED TO WEATHER OR TO VIEW SHALL BE GALVANIZED OR PROTECTED WITH OTHER APPROVED MEANS OF CORROSION PROTECTION. FOR ADDITIONAL REQUIREMENTS REGARDING HARDWARE IN EXPOSED CONDITIONS SEE SECTION 7.10.	C. THE PLACEMENT OF REINFORCING STEEL OF ALL STRUCTURAL FOOTINGS, COLUMNS, WALLS, SLABS AND APPENDAGES,
AISC "MANUAL OF D:	7.5 MINIMUM NAILING – PER IBC TABLE 2304.9.1. – SEE SHEET S1.1 7.6 ANCHOR BOLTS	 D. THE CONSTRUCTION OF THE LATERAL WOOD SYSTEM TO VERIFY APPROPRIATE ELEMENTS, NAILING, HARDWARE & CONNECTIONS PRIOR TO FINAL APPROVAL. E. ALL EPOXY DOWELED APPLICATIONS.
KSI ONLY W/	FOUNDATION PLATE OR SILL BOLTING SHALL BE PER IBC CHAPTER 23. PER IBC 2308.6 & 2304.3.1 ALL FOUNDATION PLATES OR SILLS SHALL BE BOLTED TO CONCRETE OR MASONRY	PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE A SCHEDULE OF REQUIRED INSPECTIONS AND SHALL SUBMIT THIS SCHEDULE TO THE ARCHITECT AND ENGINEER FOR APPROVAL.
OF RECORD.	WITH MINIMUM $1/2$ " NOMINAL DIAMETER ANCHOR BOLTS EMBEDDED AT LEAST 7" AND SPACED NOT MORE THAN 6 FEET APART. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES OR LESS THAN 4 INCHES FROM EACH END OF EACH PIECE. 3" x 3" x 0.229" WASHERS ARE REQUIRED AT ALL ANCHOR BOLTS PER AF&PA SDPWS-2008 SECTION 4.3.6.4.3 THE PLATE WASHER ARE PERMITTED TO HAVE A DIAGONAL SLOT. FOR SHEAR WALL TYPES W3 AND GREATER THE PLATE WASHER MUST	INSPECTION IS INSPECTION PERFORMED BY THE BUILDING OFFICIAL AT VARIOUS STAGES OF A PROJECT AS OUTLINED IN IBC SECTION 109 TO ENSURE COMPLIANCE TO THE BUILDING CODE. SPECIAL INSPECTION SHALL BE DONE BY AN INDEPENDENT 3RD PARTY INSPECTOR BY OWNER. WHERE IBC CHAPTER 17 (REF SECTION 1704) REQUIRES SPECIAL EXPERTISE TO ENSURE
ksi	EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON SIDE(S) WITH SHEATHING. 7.7 PLYWOOD/OSB SHEATHING	COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATION SHALL BE PERFORMED BY A REGISTERED DESIGN PROFESSIONAL
	EACH SHEET SHALL BEAR THE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION. ALL GRADING AND INSTALLATION SHALL CONFORM TO MOST CURRENT VERSION OF PS2 FOR OSB. USE THICKNESS AND NAILING AS SHOWN ON THE DRAWINGS. SHEATHING SHALL HAVE EXPOSURE RATING AS APPROPRIATE PER THE CONTRACTOR'S CONSTRUCTION AND WEATHER	FOR GENERAL CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AS DEFINED IN IBC SECTION 1702. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTION AS REQUIRED BY IBC. 10.0 MISCELLANEOUS
SHOP DRAWINGS IG FABRICATION. NCRETE OR BUILD-UP ECTIONS SHALL	EXPOSURE RATING AS APPROPRIATE PER THE CONTRACTOR'S CONSTRUCTION AND WEATHER CONDITIONS SPECIFIED BY CONTRACTOR. EXCEPT AS OTHERWISE SHOWN OR NOTED, PROVIDE 0.131" DIA P-NAILS OR 8d COMMON NAILS AT 6" ON CENTER @ SUPPORTED PANEL EDGES AND 0.131" DIA P-NAILS OR 8d COMMON NAILS AT 12" ON CENTER ON OTHER SUPPORTING MEMBERS FOR WALLS AND ROOFS. FOR FLOORS, USE THE SAME SPACING PATTERN AS STATED FOR WALLS OR ROOF EXCEPT USE 0.148" DIA P-NAILS OR 10d COMMON NAILS.	VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO PROCEEDING. PROVIDE ERECTION BRACING AS NECESSARY UNTIL PERMANENT SUPPORT AND STIFFNESS ARE INSTALLED. REFER TO ARCHITECTURAL PLANS FOR WALL OPENING, ARCHITECTURAL TREATMENT AND DIMENSIONS NOT SHOWN. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR SIZE AND LOCATION OF ALL OPENINGS FOR DUCTS, PIPES, CONDUITS, ETC., NOT SHOWN.
	NOTE: EQUIVALENT RATED PLYWOOD MAY BE USED IN LIEU OF OSB CALLED OUT. ALL THICKNESS AND GRADING SHALL CONFORM TO PS1 OR PS2. SHEATHING SHALL HAVE EXPOSURE RATING AS APPROPRIATE PER THE CONTRACTOR'S CONSTRUCTION AND WEATHER CONDITIONS SPECIFIED BY CONTRACTOR.	
	ROOF DIAPHRAGM: $1/2$ " MIN OSB (MIN PANEL INDEX = $24/16$), WITH 0.131" DIA P-NAILS OR 8d COMMON NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND AT 12" O.C. AT FIELD TYPICAL UNLESS NOTED OTHERWISE ON PLAN. WHERE REQUIRED, USE PLY-CLIPS INSTALLED PER MANUFACTURER'S GUIDELINES AND APA GUIDELINES.	
	FLOOR DIAPHRAGM: $3/4$ " TONGUE AND GROOVE OSB (MIN PANEL INDEX = $32/16$), WITH	

0.148" DIA P-NAILS OR 10d COMMON NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND AT 12" O.C. AT FIELD TYPICAL UNLESS NOTED OTHERWISE ON PLAN. SHEATHING SHALL BE

GLUE-NAILED TO FRAMING WITH APPROVED ADHESIVE PER THE ARCHITECT. FIELD NAILING SHALL BE 6" O.C. AT ALL INTERIOR SHEARWALL LOCATIONS INSTEAD OF TYPICAL 12" O.C.

SPACING.

JRE AND QUALITY TANDARD P.S.56 . BE MARKED WITH 56. CAMBERS ARE MBINATION 24F-V4 AS APPLICABLE. ALL LUED WITH TION 24F-V8 AND

RIED (SD) LUMBER OOR COMPRESSION) A MOISTURE OOR. ADDITIONAL SIVE LOAD WILL BE WOOD FRAMING MAY ONS. ALL FULL WELL AS EXTERIOR SE OF WOOD STUDS, ER THAN 10% WILL GREATER THAN ZED HEADERS MAY

SERVATIVE TREATED

HING ETC ...) SHALL L OF G185 (1.85 TED WOOD ACQ, OR CBA. HDG RDS AS APPLICABLE; NLESS STEEL OR ASTENERS SHALL

AB.	ANCHOR BOLT
AGGR.	AGGREGATE
ALT.	ALTERNATE
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
BD.	BOARD
BLDG.	BUILDING
BLK	BLOCK
BLK'G.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BTWN.	BETWEEN
C.J.	CONTROL JT.
CLR.	CLEAR
C.M.U.	CONCRETE
	MASONRY
COL.	ROLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CSE	COMPONENTS
	STRUCTURAL ENGR
DEG.	DEGREE
DET./DTL.	DETAIL
DIAG.	DIAGONAL
DIA. ø	DIAMETER
DN.	DOWN
DWG.	DRAWING
(E)	EXISTING
EA.	EACH
E.J.	EXPANSION JOINT
E.I.F.S.	EXTERIOR INSULATION AND FINISH SYSTEM
EL. ELEV.	ELEVATION
ELEV.	ELEVATION
EQ. EQUIP.	EQUAL EQUIPMENT
E.W. EXP.	EACH WAY EXPANSION
EXT.	EXTERIOR
L/1.	

Abbr	reviations
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FINSH FLOOR
FIN.	FINISH
FLR.	FLOOR
FND.	FOUNDATION
F.O.B.	FACE OF BRICK
F.O.C.	FACE OF CONCRETE
F.S.	FULL SIZE
FT.	FOOT OR FEET
FTG.	FOOTING
FURR.	FURRING
GA. GALV. GR. GYP.	GAUGE GALVINIZED GRADE GYPSUM GYPSUM BOARD HEIGHT HEATING, VENT AND AIR CONDITIONING
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
JNT.	JOINT
JST.	JOIST
MAX.	MAXIMUM
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTL.	METAL
NO.	NUMBER
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OH.	OVERHEAD
OPG.	OPENING
OPP.	OPPOSITE
PCT.	PRE-CAST

P.L.	PROPERTY LINE
PLYWD.	PLYWOOD
R.D.	ROOF DRAIN
RE:	REFER TO
REINF.	REINFORCED
REQ'D.	REQUIRED
RM	ROOM
R.0.	ROUGH OPENING
SCHED.	SCHEDULE
SECT.	SECTION
SER	STRUCTURAL ENGINEER OR RECORD
S.F.	SQUARE FOOT
SHT.	SHEET
SIM.	SIMILAR
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
STAGG.	STAGGERED
STD.	STANDARD
STIFF	STIFFENER
STL.	STEEL
STRUC.	STRUCTURAL
TR	TREAD
Т&В	TOP AND BOTTOM
T & G	TONGUE & GROOVE
THK.	THICK
т/	TOP OF
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VER	VERIFY
VERT.	VERTICAL
W/	WITH
W/0	WITHOUT
¢.	CENTERLINE
PL	PLATE

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TOTAL NUMBER OF SHEETS

* LATEST INDIVIDUAL SHEET REVISION ISSUED

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CONSTRUCTION THESE DRAWINGS ARE SUBJECT TO REVISIONS PENDING LOCAL JURISDICTIONAL REVIEW.



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STRUCTURAL NOTES-TABLES

·	WIND	DBEC	SUBE	TARI	F FOF)	1 🗆		
WIND PRESSURE TABLE FOR									
CO	MPON	ENTS	& CL	ADDIN	IG (AS	SD)			
		R	DOF SURFACES ¹				1 🛏		
EFFECTIVE	CTIVE POSITIVE PRESSURE (PSF) NEGATIVE PRESSURE (PSF)								
WIND AREA			ZO	NE ²					
	1	2	3	1	2	3]		
10 SF	7.80	7.80	7.80	-12.39	-21.56	-31.89]		
20 SF	7.04	7.04	7.04	-12.01	-19.65	-29.59]		
50 SF	6.27	6.27	6.27	-11.62	-17.74	-27.30	1		

0.27	0.27	0.27	-11.02	-17.74	-27.30			
5.51	5.51	5.51	-11.24	-15.83	-25.01			
5.51	5.51	5.51	-11.24	-15.83	-25.01			
WALL SURFACES								
POSI	TIVE PRESSURE	(PSF)	NEGA	NEGATIVE PRESSURE (PSF)				
	ZONE ²							
4		5	4		5			
12.18	12.18 12.1		-13.21		-16.31			
11.56		11.56	-12.59		-15.07			
10.94		10.94	-11.98		-13.83			
10.32		10.32	-11.36		-12.57			
9.08		9.08	-10.12		-10.12			
	5.51 5.51 POSI 4 12.18 11.56 10.94 10.32	5.51 5.51 5.51 5.51 W POSITIVE PRESSURE 4 12.18 11.56 10.94 10.32	5.51 5.51 5.51 5.51 5.51 5.51 WALL SURFACES POSITIVE PRESSURE (PSF) ZO 4 5 12.18 12.18 11.56 11.56 10.94 10.32	5.51 5.51 5.51 -11.24 5.51 5.51 5.51 -11.24 5.51 5.51 5.51 -11.24 WALL SURFACES POSITIVE PRESSURE (PSF) NEGA ZONE ² 4 5 4 12.18 12.18 -13.21 11.56 11.56 -12.59 10.94 10.94 -11.98 10.32 10.32 -11.36				

. NET WIND PRESSURES AT ROOF SURFACES = VALUE FROM TABLE ABOVE +2/3 DEAD LOAD (DEAD LOAD REDUCES NEGATIVE PRESSURE + ADDS TO POSITIVE PRESSURES)

ZONES ARE DEFINED BY FIGURE 30.6-1 ASCE/SE1 07-10 FOR ROOF AND WALL ELEMENTS

MATERIAL/ TYPE	IBC CODE	REFERENCE	FR	EQUENCY APPLICA	BLE	
INSPECTION	REFERENCE	STANDARD	TO THIS PROJECT			SCOPE OF SERVICE
	REFERENCE	STANDARD	CONT.	PERIODIC	REQUIRED	
Site Preparation	Table 1705.6 Item 5	-	-	Х	N/A	Inspection to determine that the site has been prepared in accordance with the approved soils or geotechnical report.
Prepared Fill — During Fill Preparation	Table 1705.6 Item 4	_	х	-	YES	Inspection to determine that the materials being used and maximum lift thicknesses comply with the approved report as specified in Section 180
Evaluation of in-place Density	Table 1705.6 Item 3	_		Х	YES	Tests to determine, at the approved frequency, that the in-place dry density of the compacted fill complies with the approved report.
Footings and Foundations	1805.1 — 1805.9 Table 1705.6 Item 1	_	_	Х	YES	Confirm soils suitable for the design allowable soil bearing pressure are present at bearing grade. Confirm the footing dimensions are as specifion the project plans.
Foundation Depth	Table 1705.6 Table 1705.6 Item 2	_	_	Х	YES	Confirm excavation are extended to proper depth and have reached proper materials.

2018 International Building Code – Statement of Special Inspection

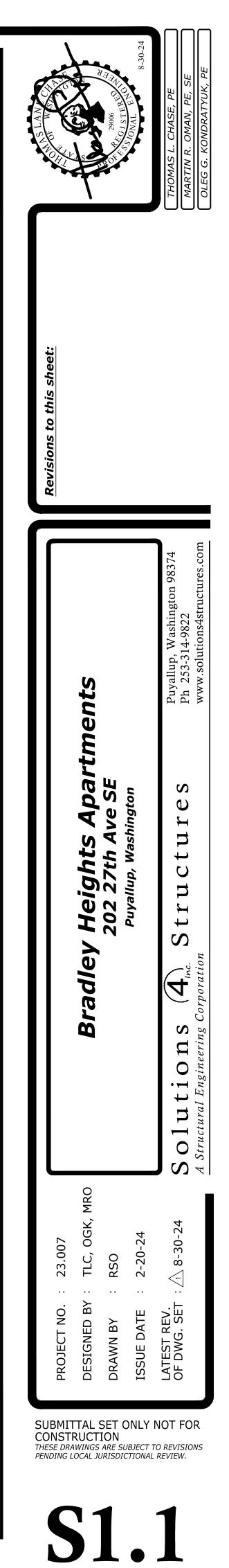
MATERIAL/ TYPE	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT			SCOPE OF SERVICE
INSPECTION			CONT.	PERIODIC	REQUIRED	1
Materials	1705.3.1, Table 1705.3 Item 1	Applicable ASTM material spec.; AISC 360, Section A3.3	_	Х	YES	Manufacturer's Certificates of Compliance or Tests per Chapter 3 of ACI 318, per ASTM A 706, and per 1705.3.1
Installation of Reinforcing Steel	1910.4 Table 1705.3 Item 1	ACI 318:3.5; 7.1 – 7.7	_	Х	YES	Inspection to confirm compliance with details shown on approved Construction Documents, Shop Drawings, ACI 318 and Code Section 1910.4
Welding of Reinforcing Steel	Table 1705.3 Item 2	AWS D1.4, ACI 318:3.5.2	-	-	N/A	Observation of reinforcing steel welding in accordance with Table 1705.2.2, Item 2, (see attached steel construction table).
Bolt Installation	1908.5, 1901.1 Table 1705.3 Item 3	ACI 318: 8.1.3, 21.2.8	Х	-	YES	Observation of anchor bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.
Formwork	Table 1705.3 Item 12	ACI 318:6.1.1	_	Х	YES	Inspection for compliance with ACI 318, Section 6.1, 6.2, for shape, location and dimensions of concrete member being formed.
Concrete Strength	1910.10, Table 1705.3 Item 6	ASTM C 172, ASTM C 31, ACI 318:5.6, 5.8	_	Х	NO	Evaluation of Concrete strength in accordance with ACI 318, Section 5.6 and in accordance with the requirements of IBC 1905.6.
Concrete Mixes	1904.2, 1910.2, 1910.3 Table 1705.3 Item 5	ACI 318: 4, 5.2-5.4	_	Х	YES	Inspection for use of proper mix proportions and techniques, ACI 318, Chapter 4, Sections 5.2 — 5.4.
-	-		-	-	-	-
Concrete Sampling	1910.10 Table 1705.3 Item 6	ASTM C 172, ASTM C 31, ACI 318:5.6, 5.8	Х	-	МО	
Concrete Placement	1910.6, 1910.7, 1910.8, Table 1705.3 Item 7	ACI 318:5.9, 5.10	Х	-	YES	Inspection for proper application techniques; ACI 318, Sections 5.9 and 5.1
Curing Temperatures and Techniques	1910.9 Table 1705.3 Item 8	ACI 318: 5.11-5.13	_	Х	NO	Inspection for maintenance of curing temperatures and techniques; ACI 318, Sections 5.11, 5.12 and 5.13.
Prestressed Concrete: Application Prestressing Forces	Table 1705.3 Item 9a	ACI 318: 18.20, ACI 18.18.4	Х	-	NO	Field inspections of precast concrete members in accordance with ACI 318, Section 18.20.
Prestressed Concrete: Grouting of unbonded prestressing tendons in seismic-force-resisting system	Table 1705.3 Item 9b	ACI 318: 18.20, ACI 18.18.4	Х	-	NO	Field inspections of precast concrete members in accordance with ACI 318, Chapter 18.18.4.
Manufacture of Precast Concrete	1704.2.1	_	_	Х	NO	Certificate from Independent Agency and current agreement for periodic (minimum 6 month intervals) in-plant quality assurance inspections.
Erection of Precast Concrete	Table 1705.3 Item 10	ACI 318: 16	_	Х	NO	Field inspections of precast concrete members in accordance with ACI 318, Chapter 16.
Post Tensioning	Table 1705.3 Item 11	ACI 318: 6.2	_	Х	NO	Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms for beams and structural slabs in accordance with ACI 318, Section, 6.2.
Post Installed Anchors	1909.1, Table 1705.3 Item 11	ACI 318: 3.8.6, 8.1.3, 21.1.8	_	х	YES	Verification of anchors post installed in hardened concrete members.

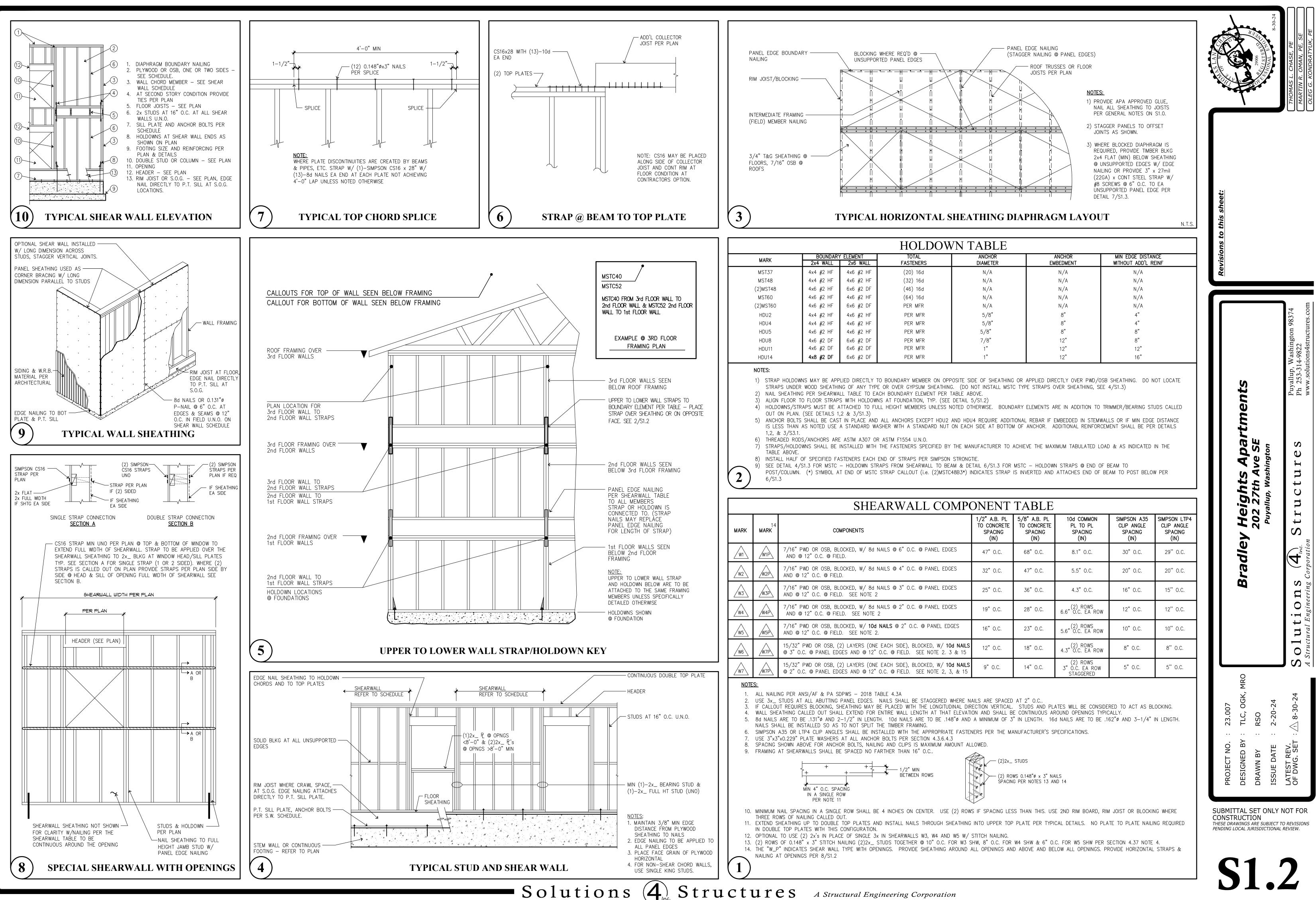
2018 International Building Code - Statement of Special Inspection WOOD CONSTRUCTION

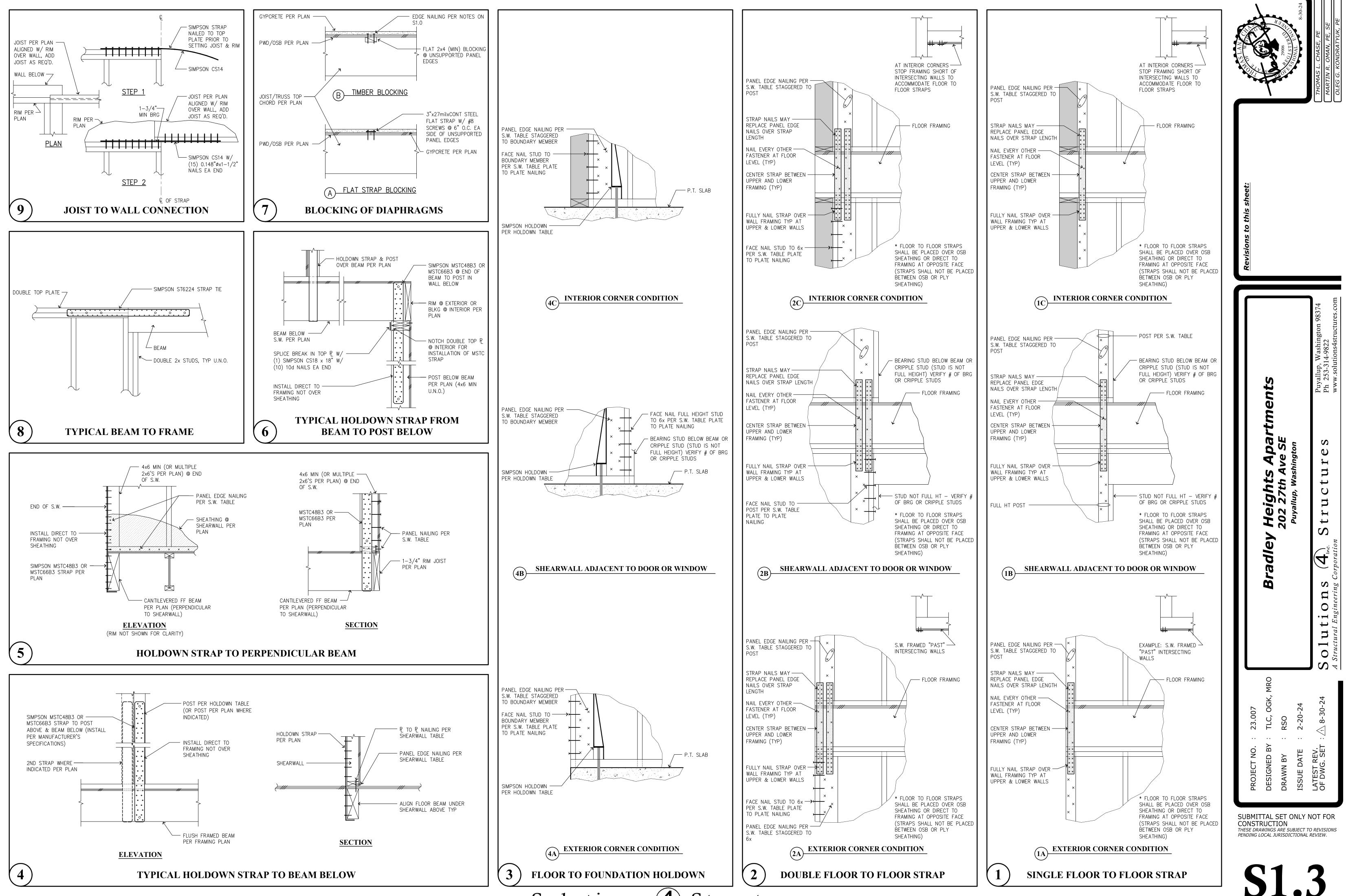
MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT			SCOPE OF SERVICE		
INSPECTION			CONT.	PERIODIC	REQUIRED			
Fabrication — Inspection of Fabricator's Quality Control Procedures	1704.2.5	_	I	Х	YES	Certificate from Independent Agency and current agreement for periodic (minimum 6 month intervals) in-plant quality assurance inspections.		
				-				

MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT			SCOPE OF SERVICE
			CONT.	PERIODIC	REQUIRED	
Structural Steel	1705.11.1	AISC 341	Х	-	N/A	Observation of structural welding in accordance with AISC Seismic. Not required for 5/16" single pass fillet welds or welding of metal deck.
Structural Wood: Inspection of field gluing operations of elements of the seismic force resisting system.	1705.11.2	-	Х	-	N/A	Inspection of field gluing operations of elements of the seismic force resisting system.
Structural Wood: Inspection of nailing, bolting, anchoring and other fastening components the seismic force resisting system, including drag struts, braces and hold—downs.	1705.11.2	_	_	х	YES	Inspection of nailing, bolting, anchoring and other fastening components within the seismic force resisting system, including drag struts, braces and hold-downs. Not required for nailing o.c. spacing greater that 4" o.c
Cold-formed Steel Framing	1705.11.3	-	-	Х	NO	Inspection of welding operations of elements of the seismic force resisting system.
Cold-formed Steel Framing	1705.11.3	-	_	х	NO	Inspection of screw attachments, bolting, anchoring and other fastening components within the seismic force resisting system, including struts, braces and hold-downs.
D18 International Building Code — Statement of Sp	ecial Inspection					
RUCTURAL: OBSERVATIONS						
MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT			SCOPE OF SERVICE
			CONT.	PERIODIC	REQUIRED	
Strucutral Observations	1704.5	_	-	Х	If required by jurisdiction	Structural observations to be preformed to observe general conformance to the construction documents.

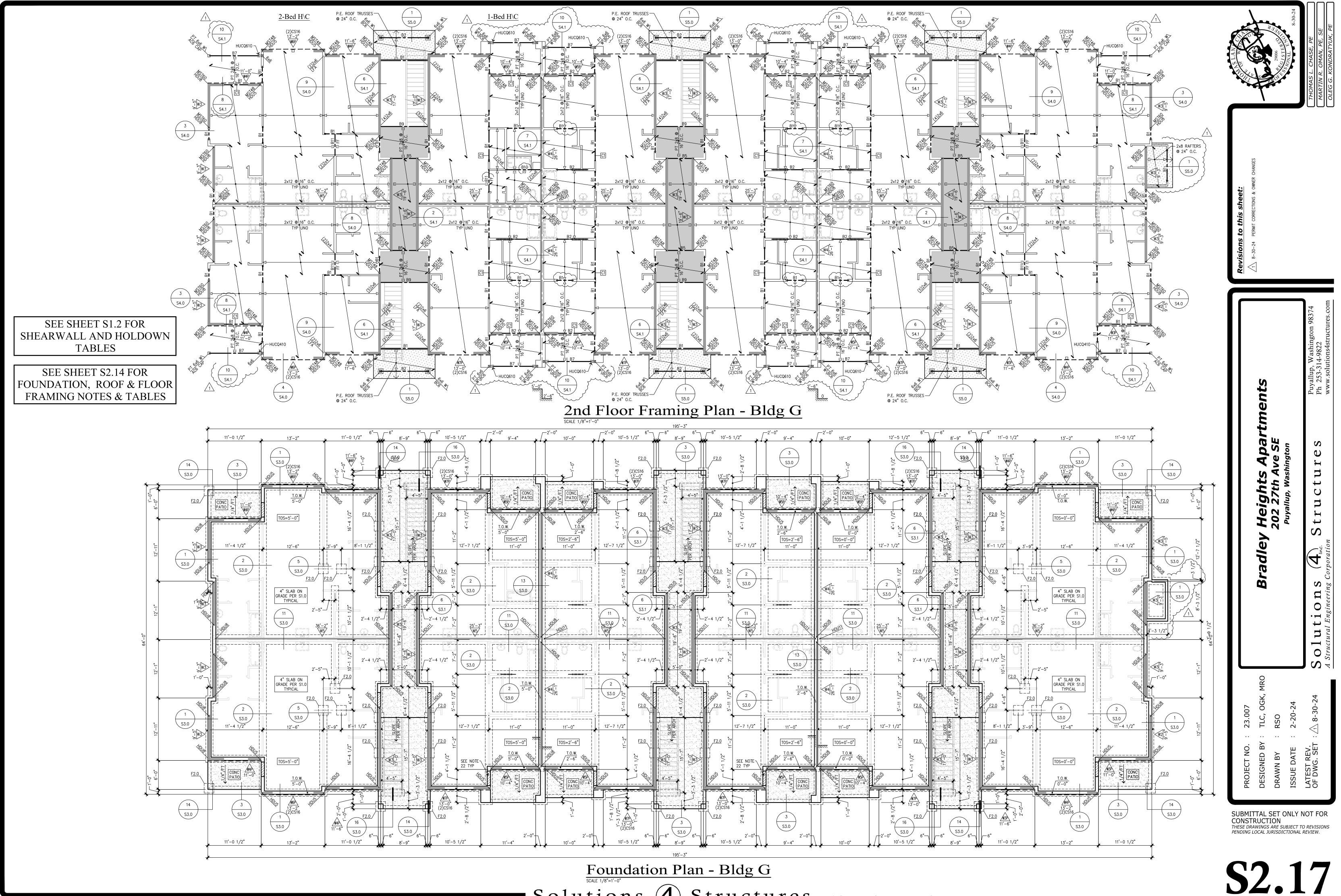
Special Inspection required per Chapter 17 of the 2018 IBC - SUBMIT REPORTS TO INSPECTORS WITH THE CITY OF PUYALLUP



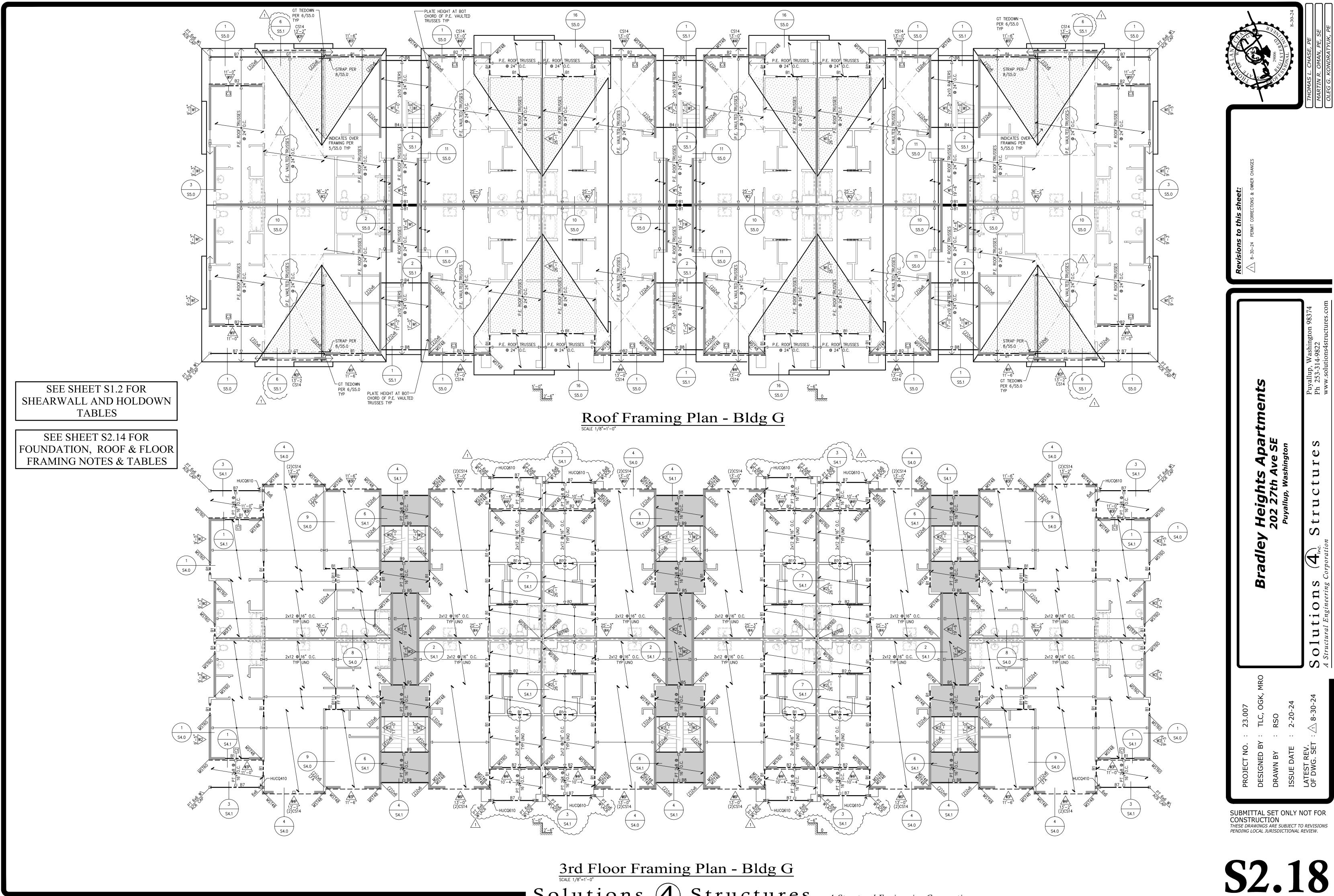




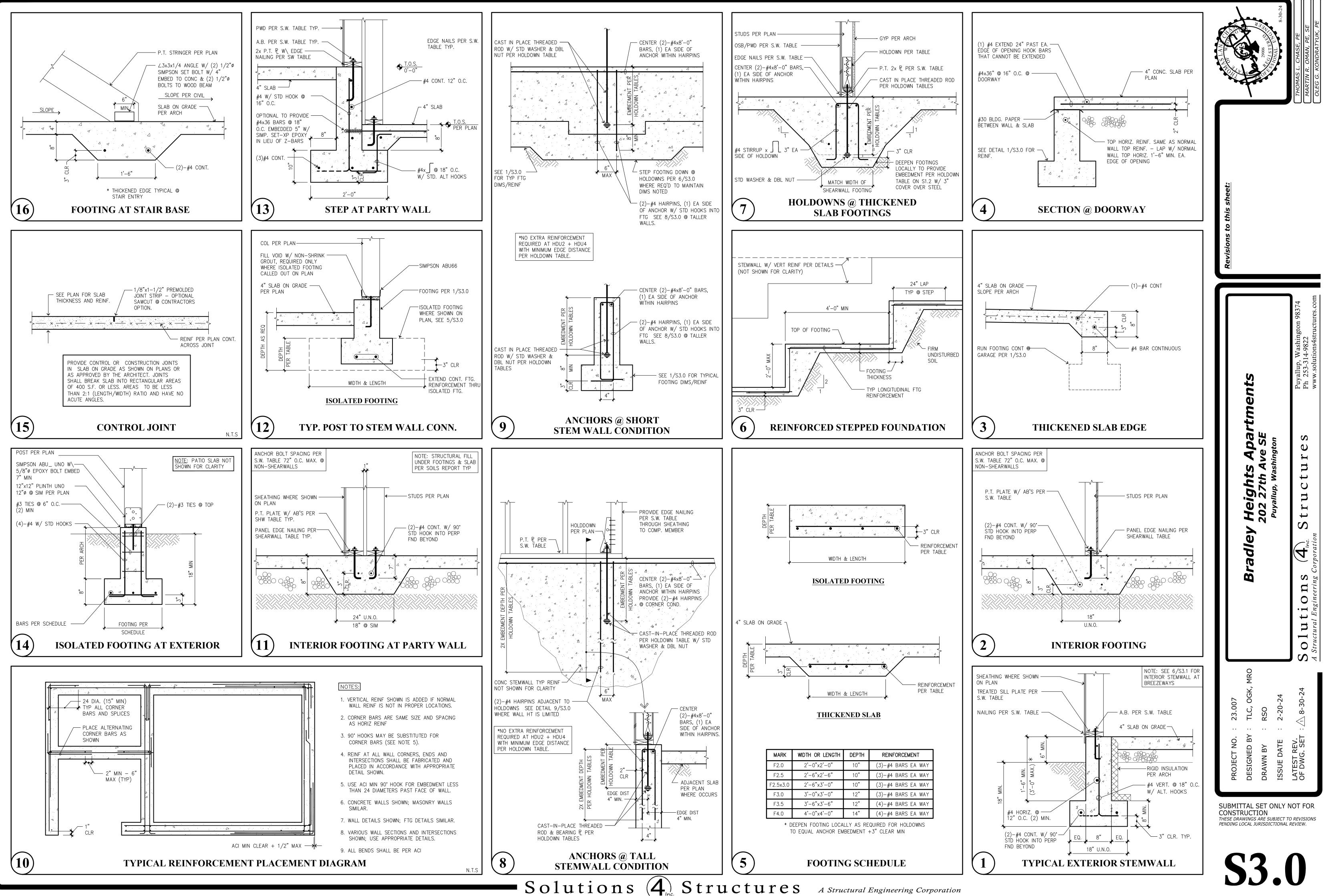
Solutions (4). Structures A Structural Engineering Corporation

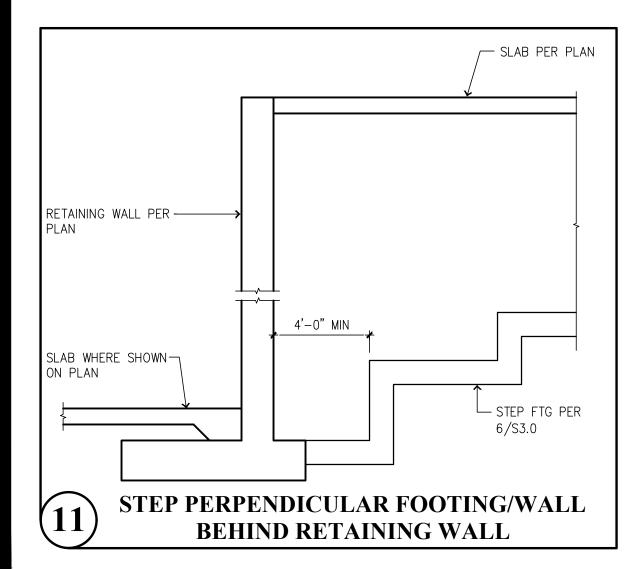


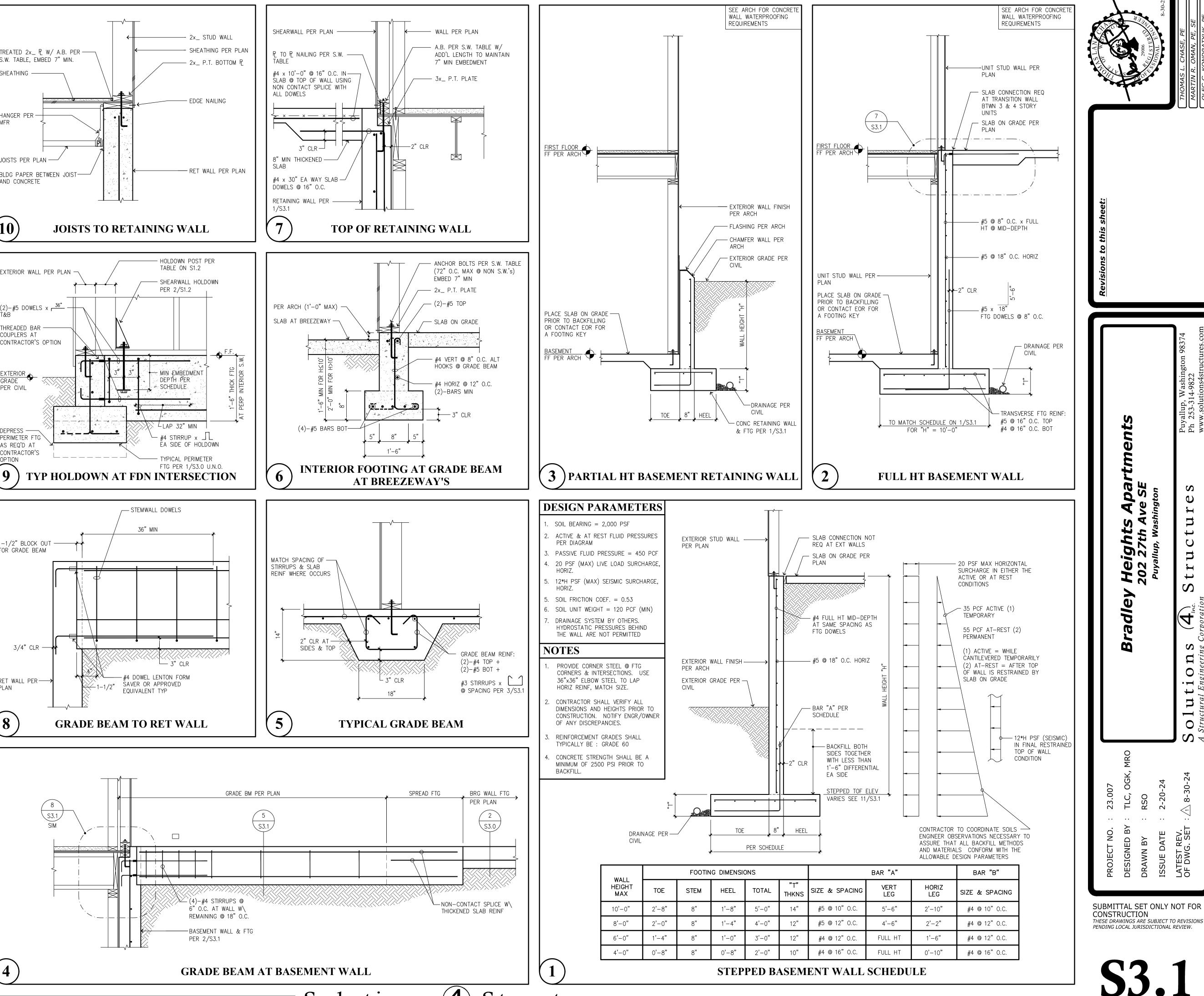
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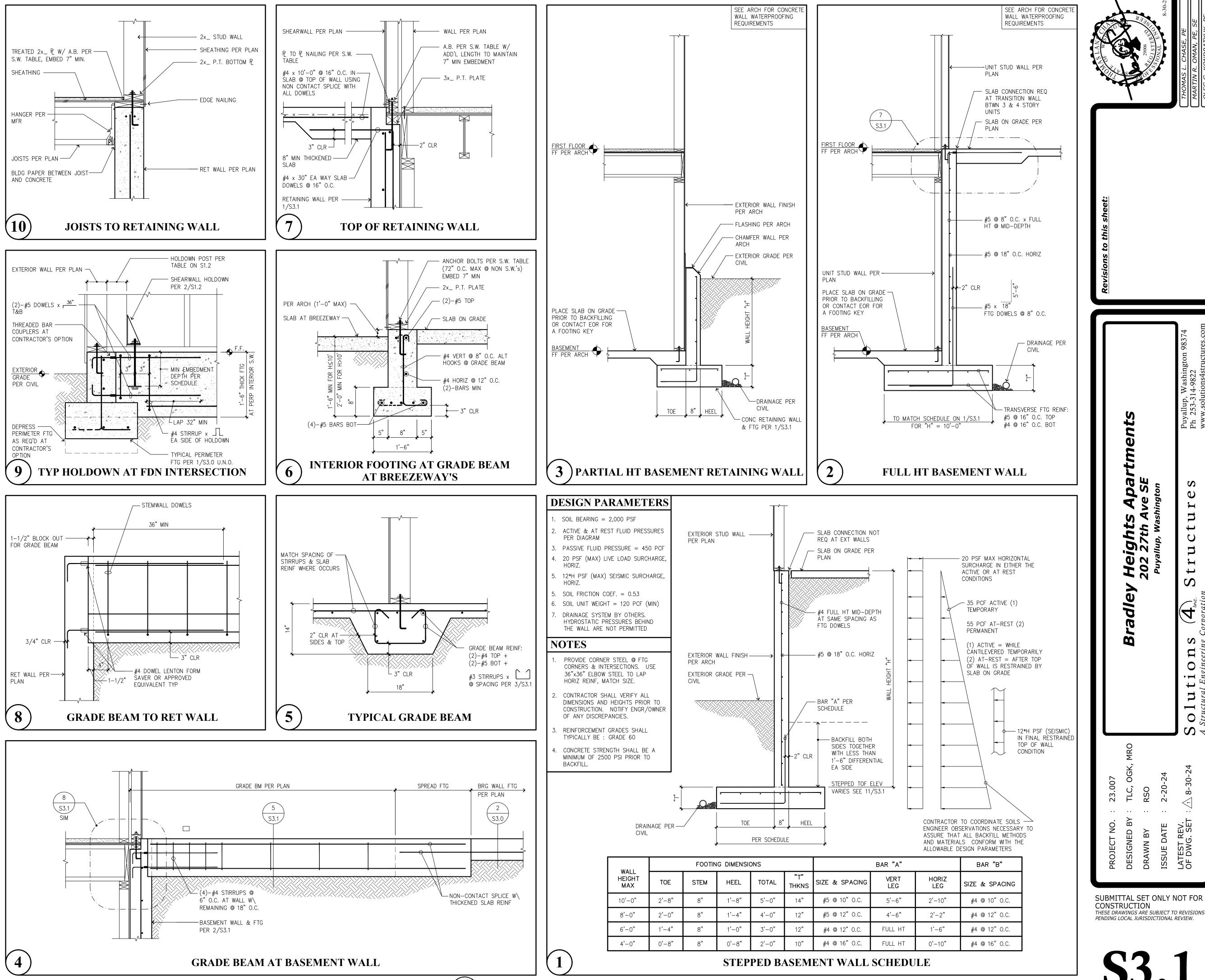


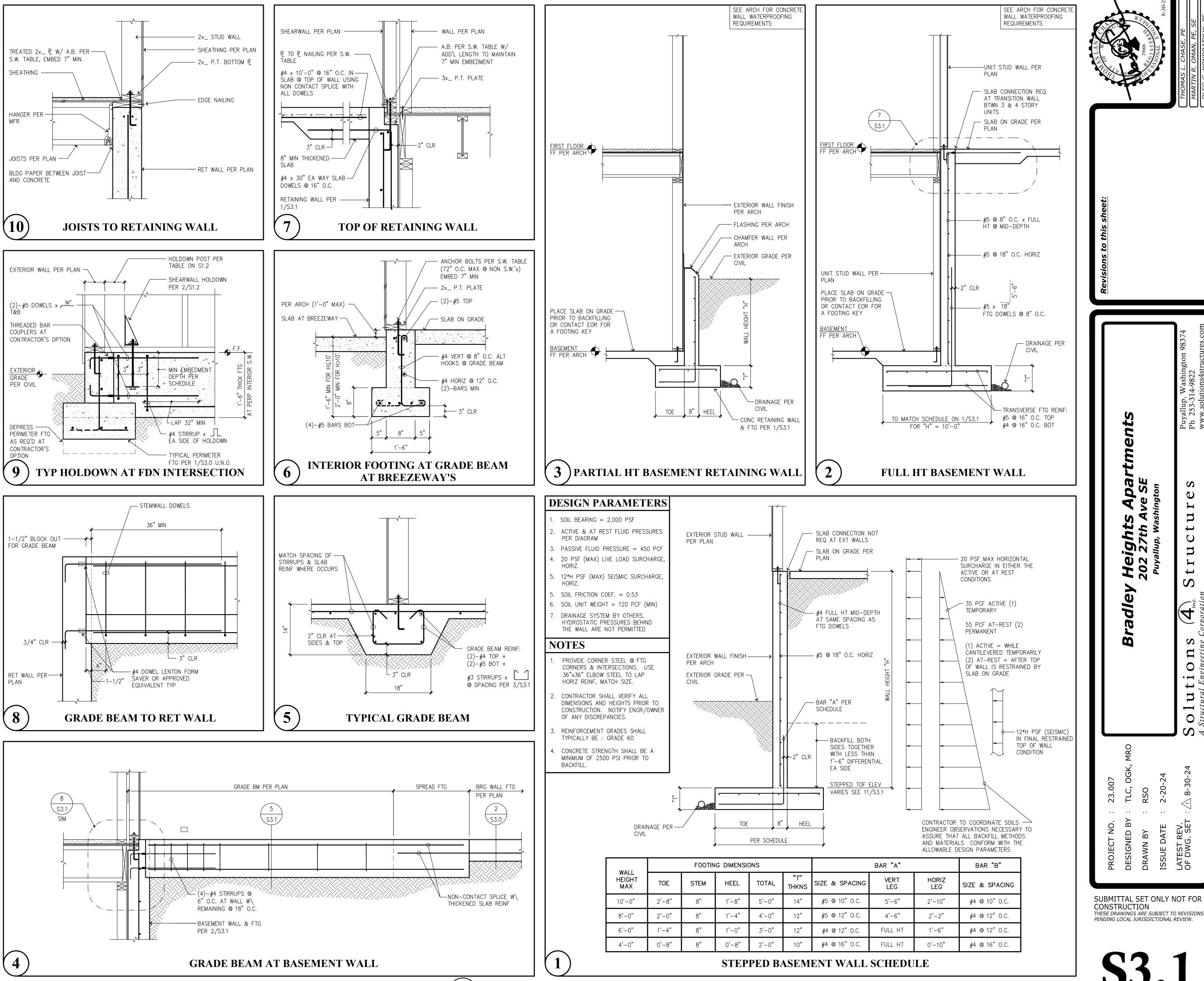
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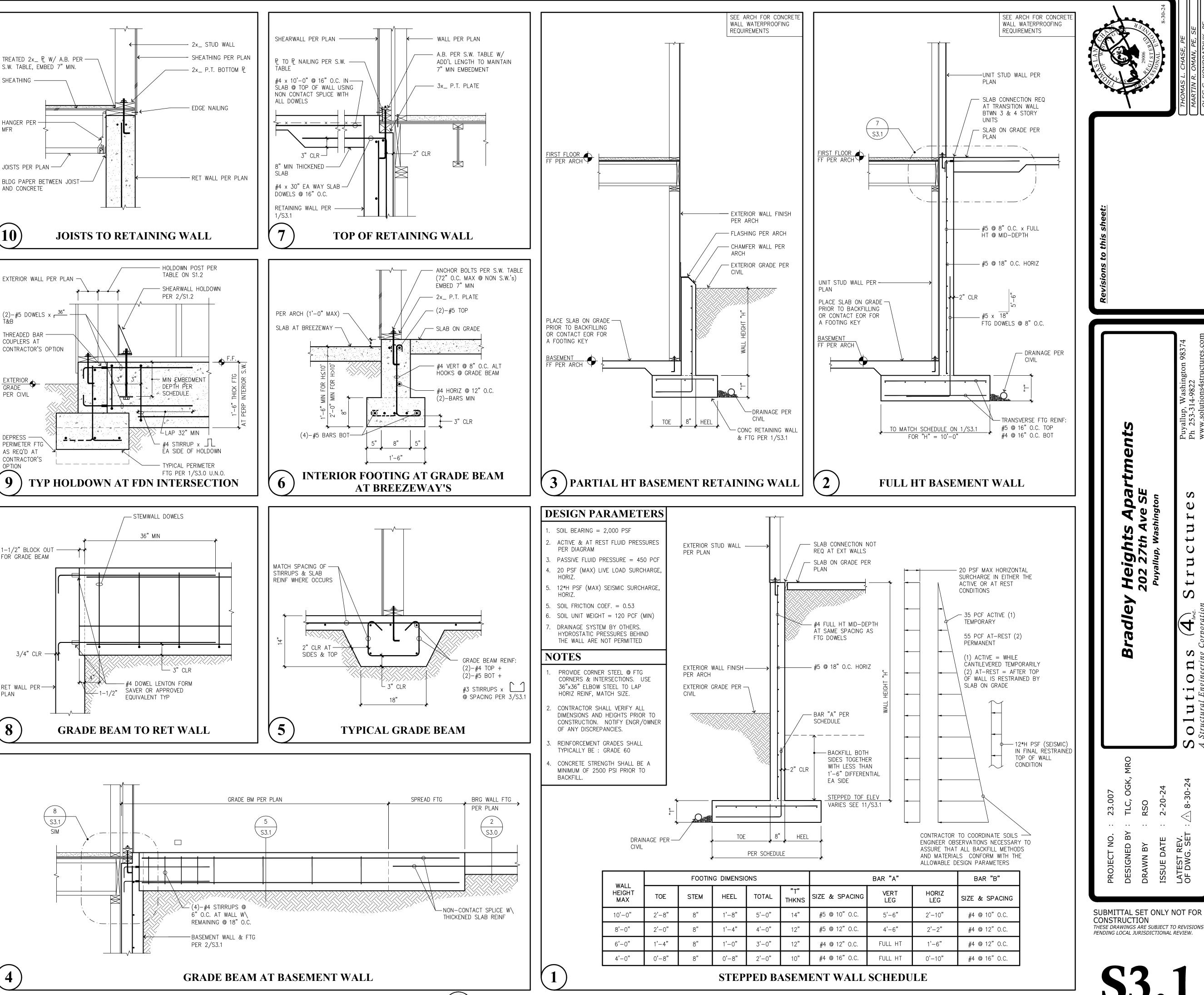




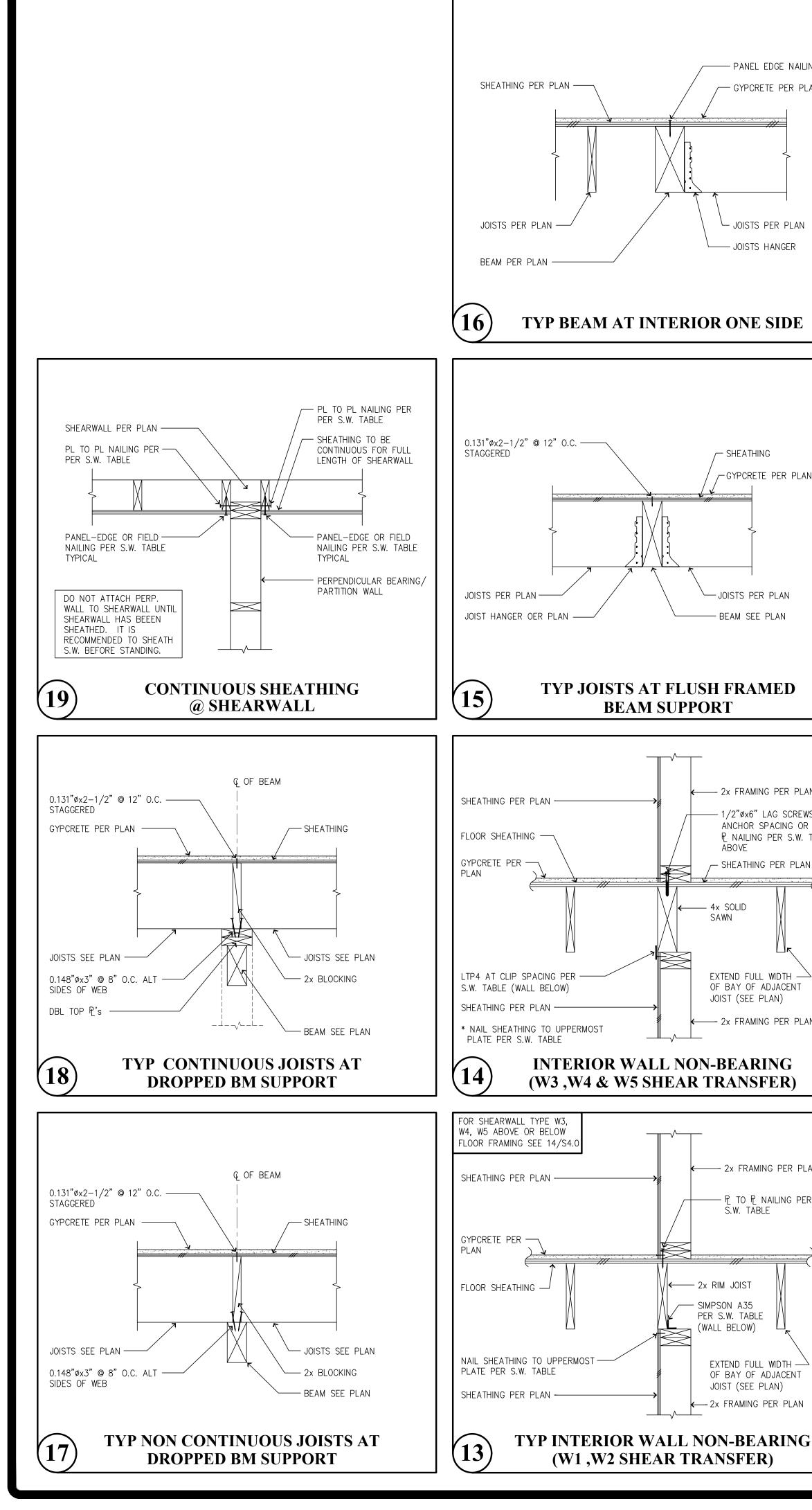






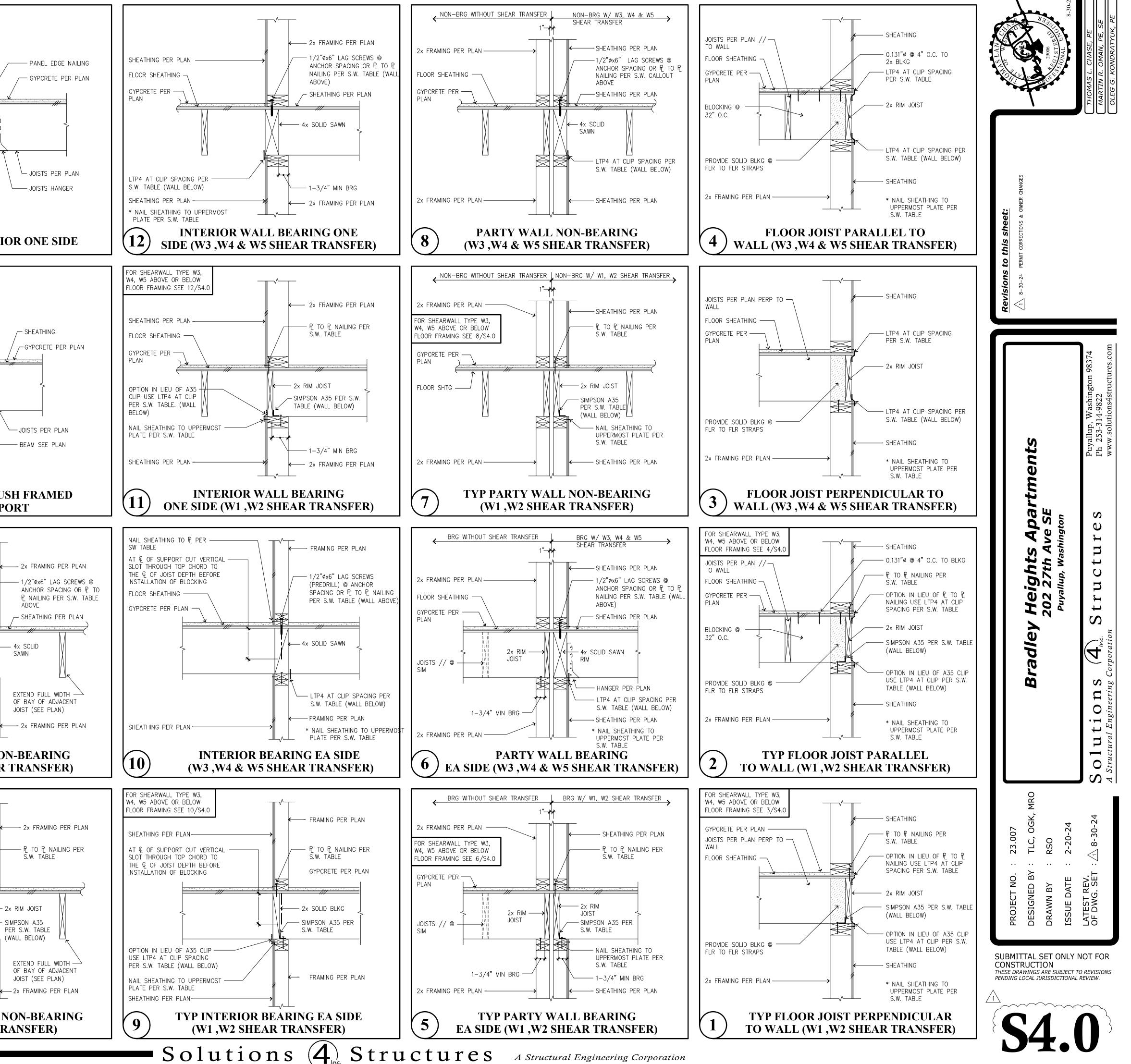


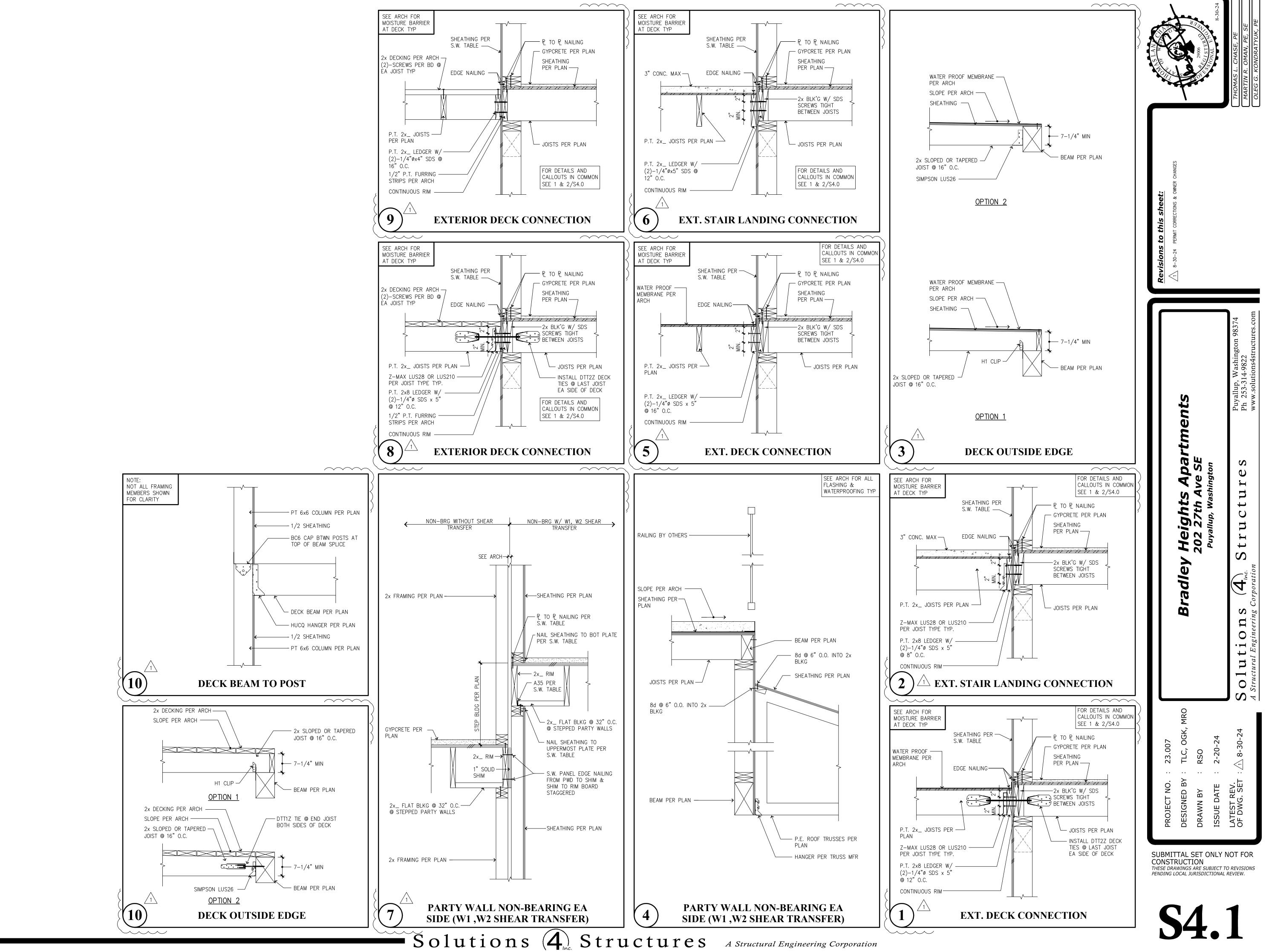
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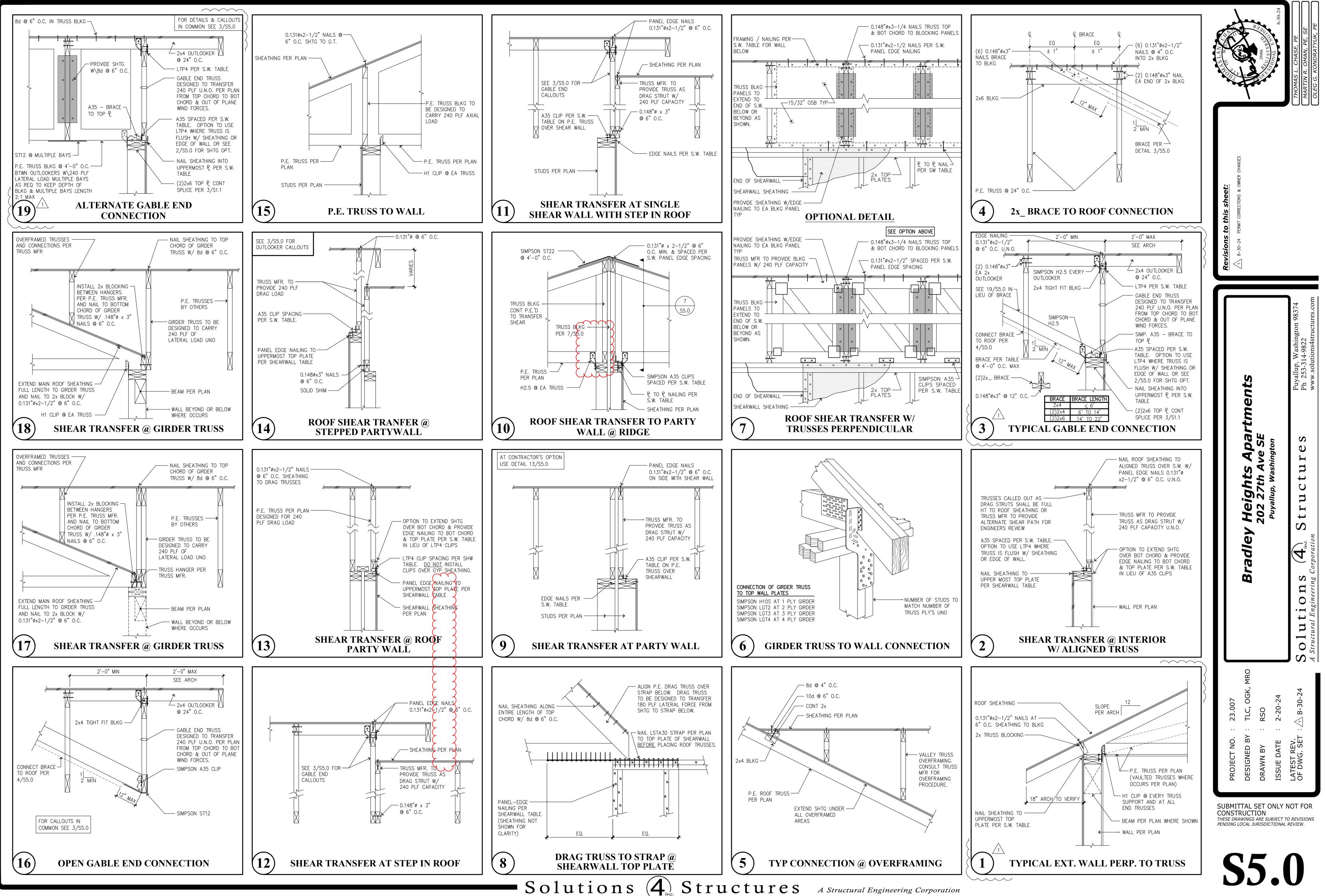


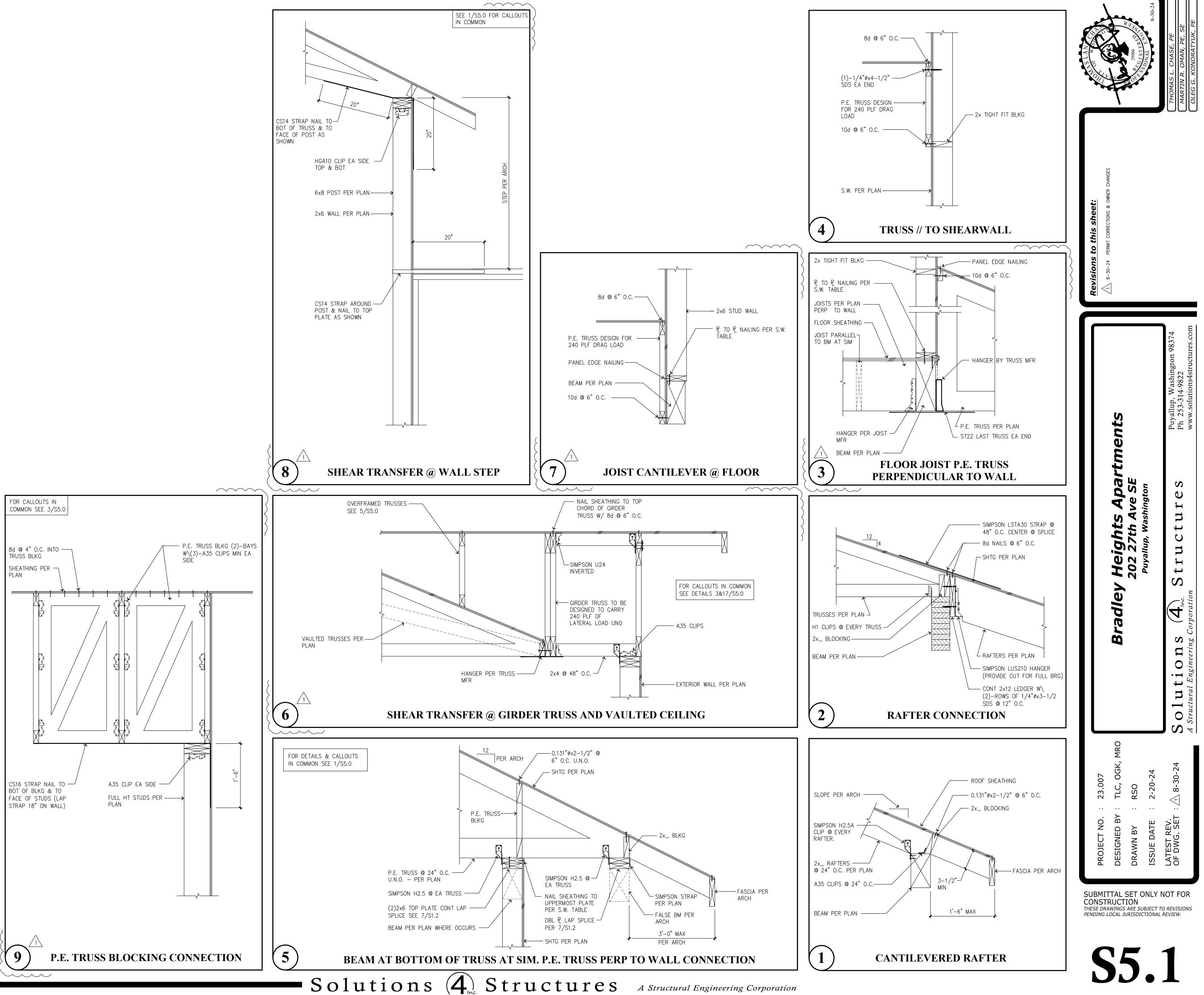
- SHEATHING

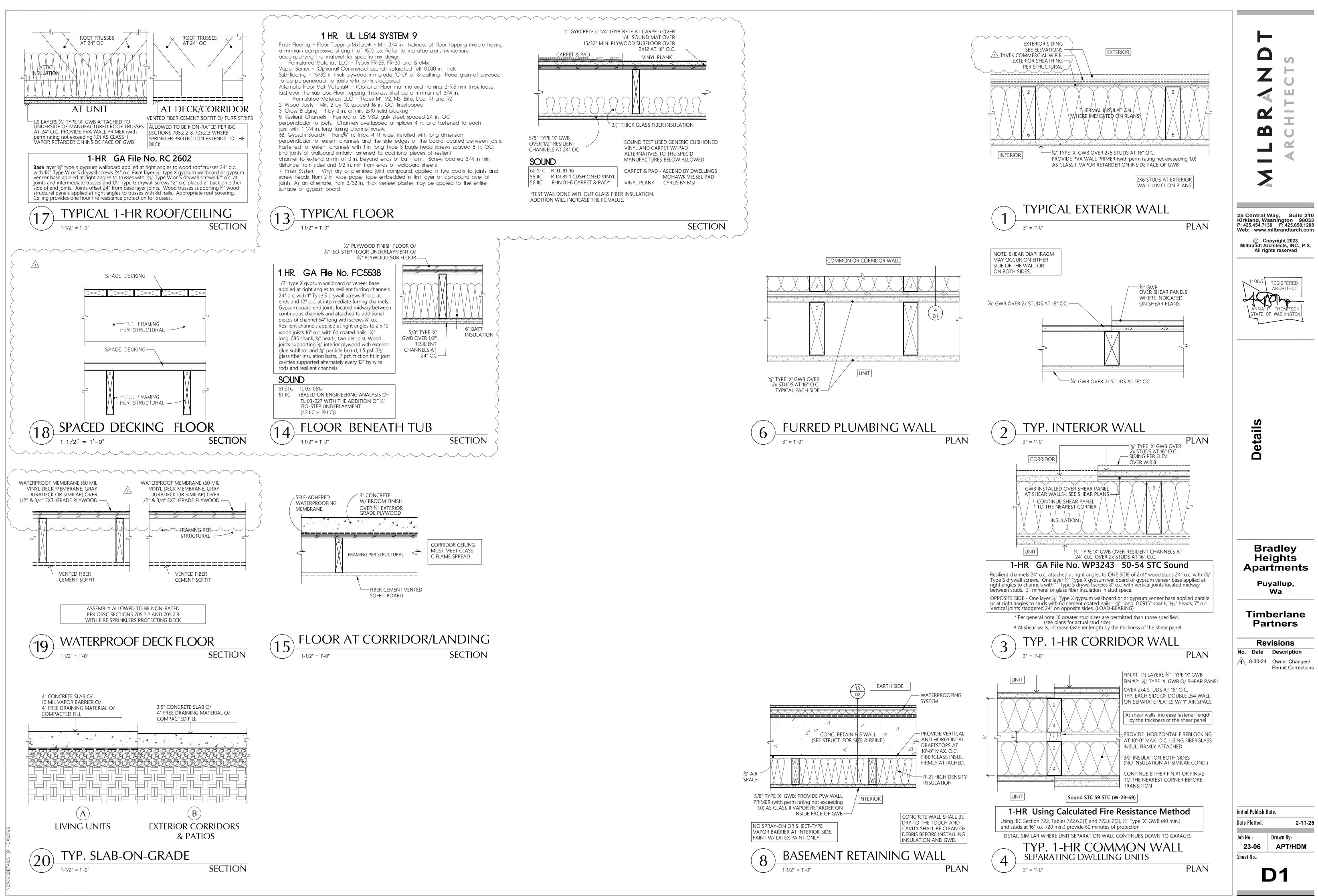
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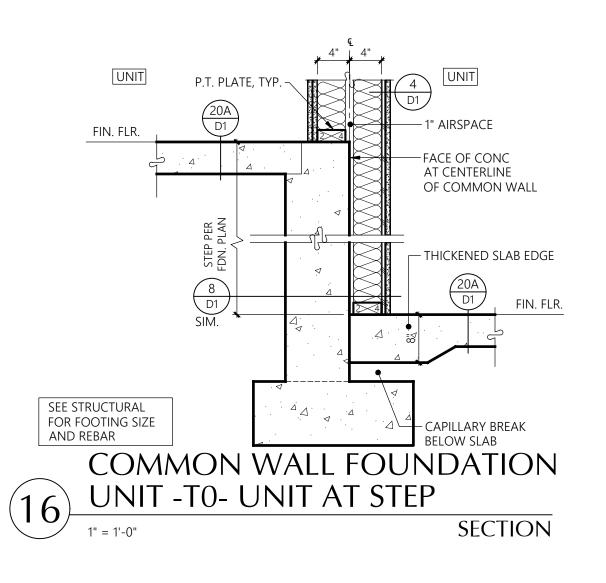




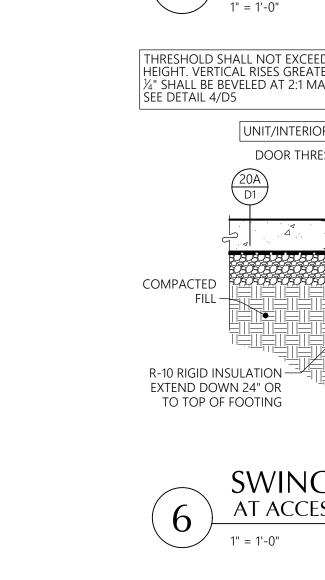


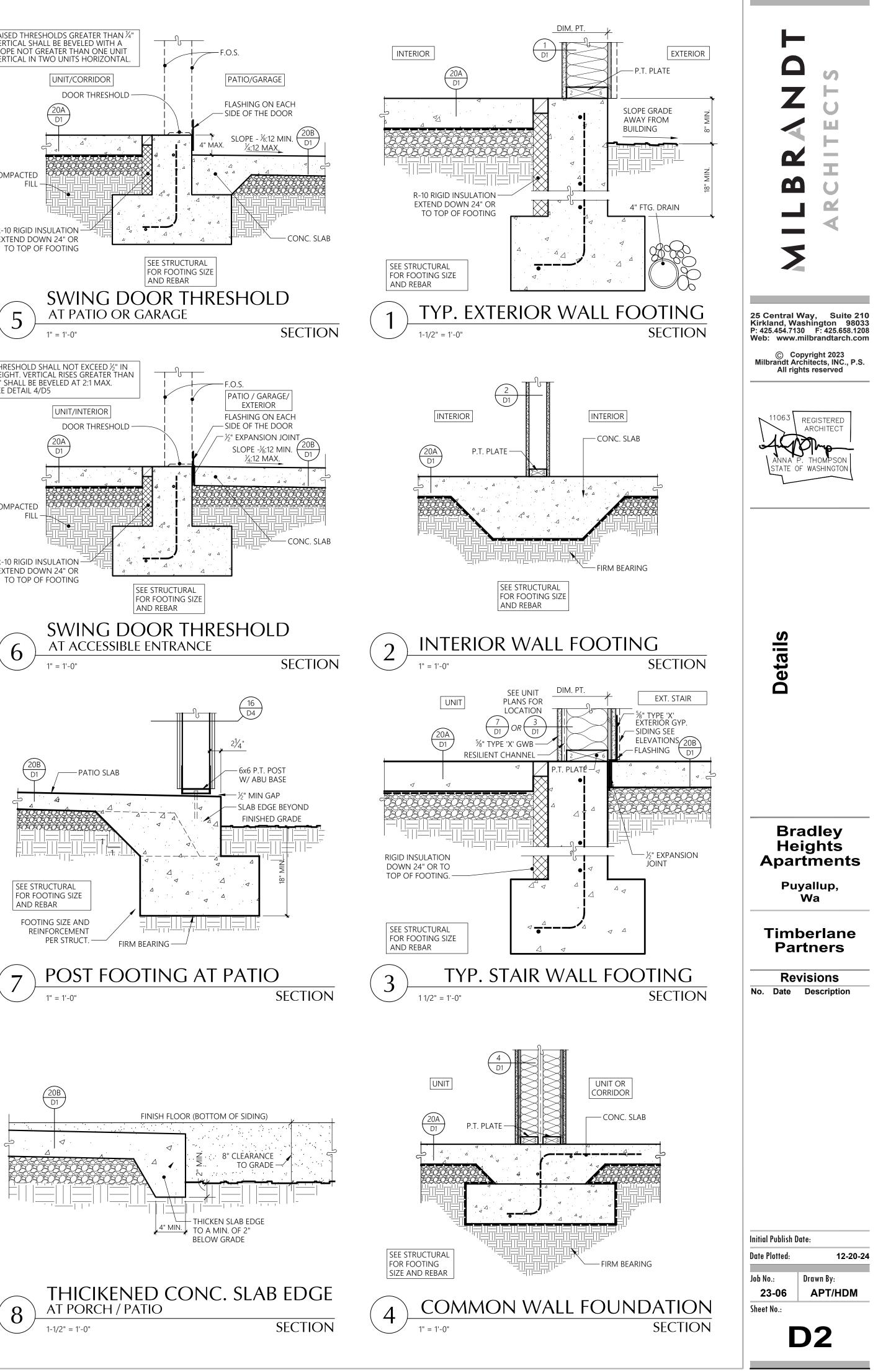


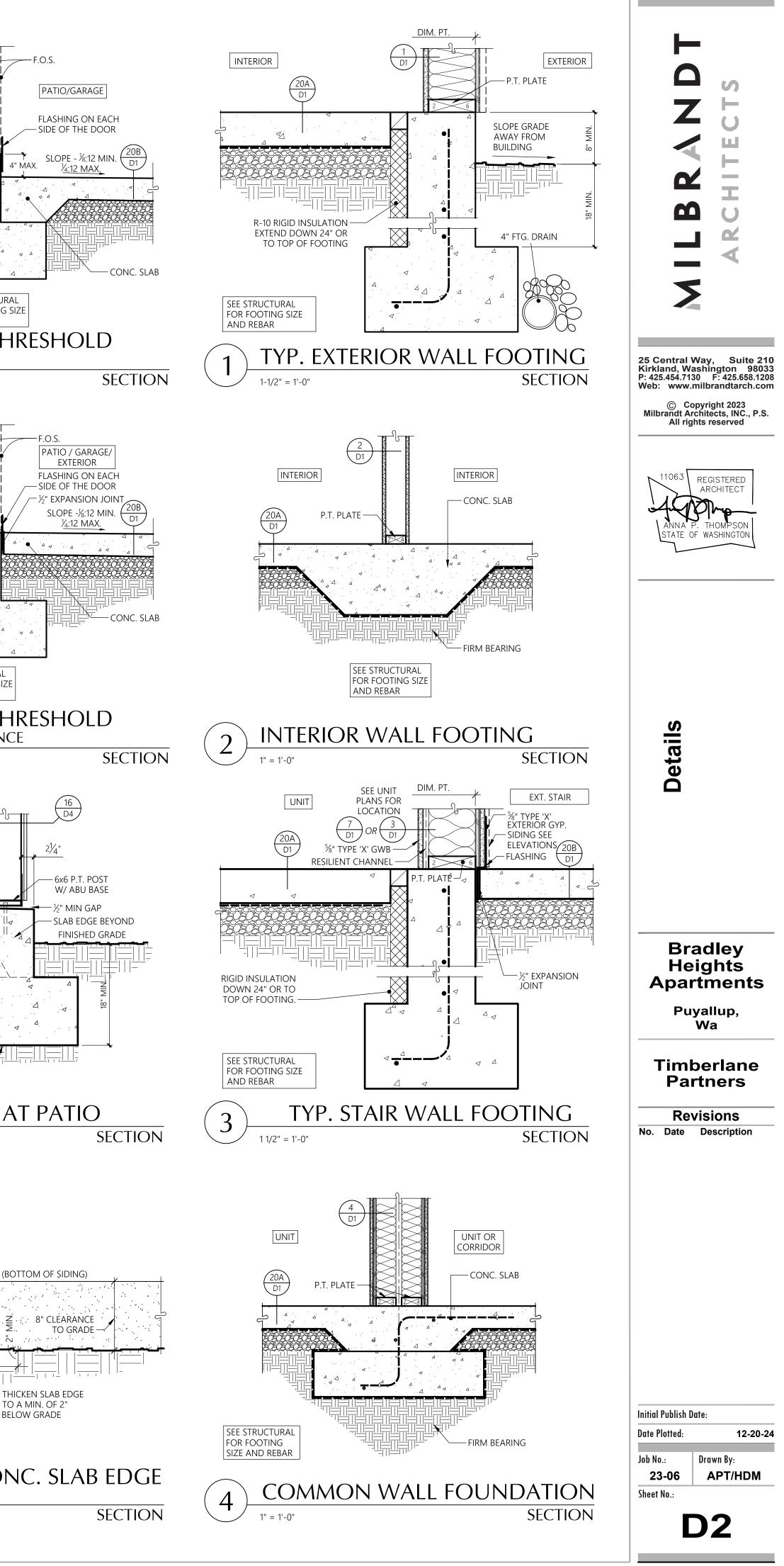


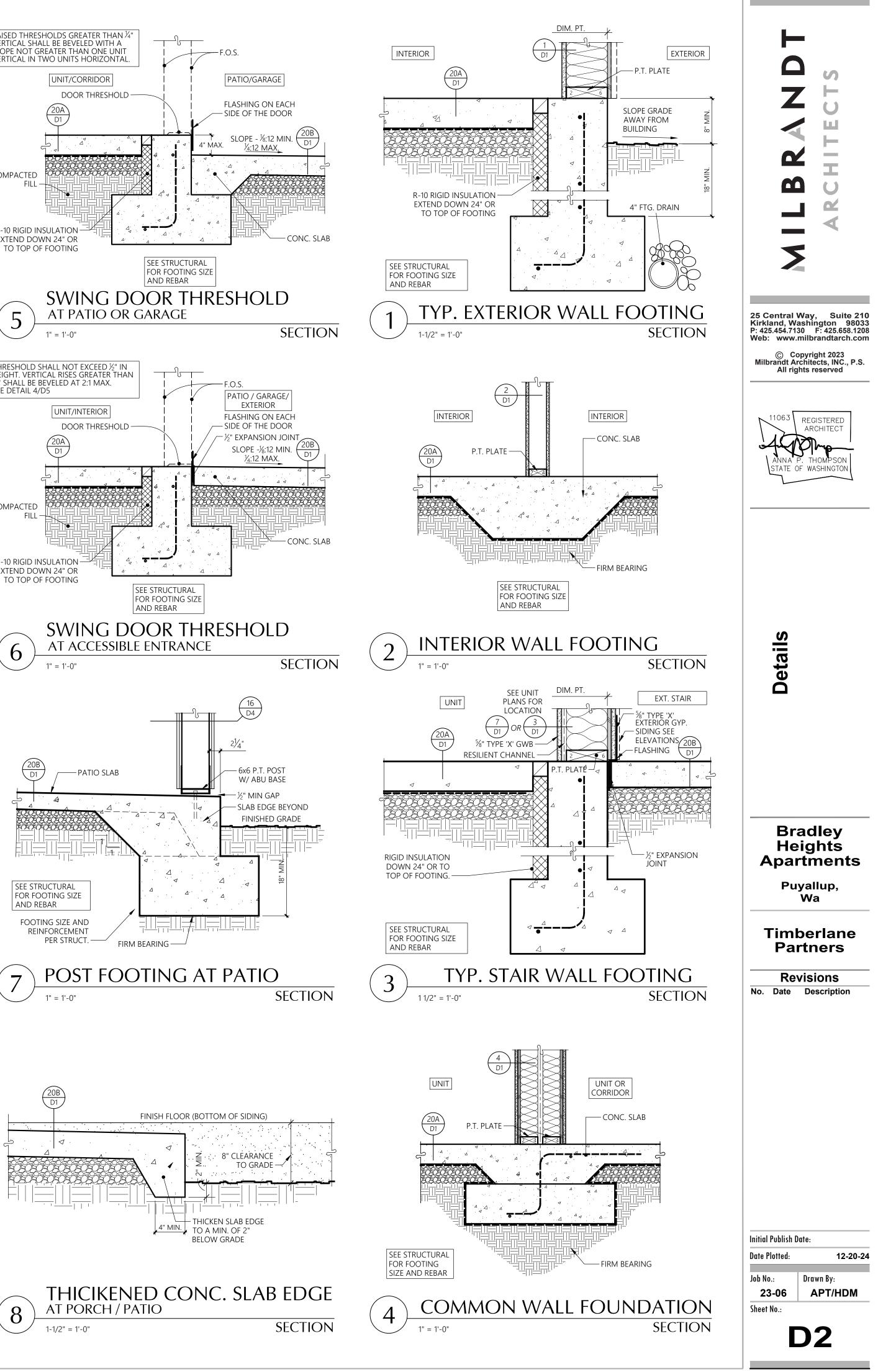


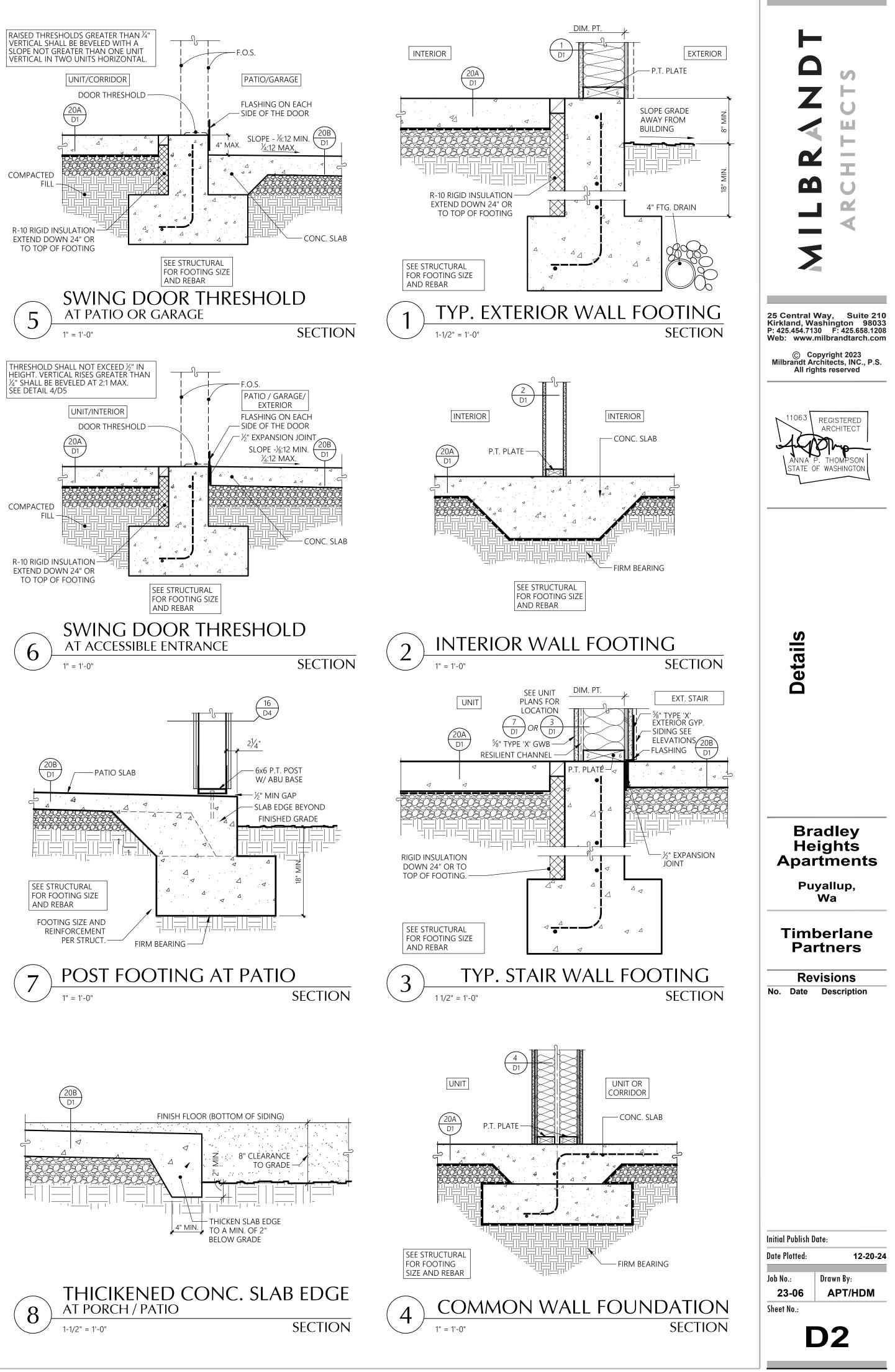


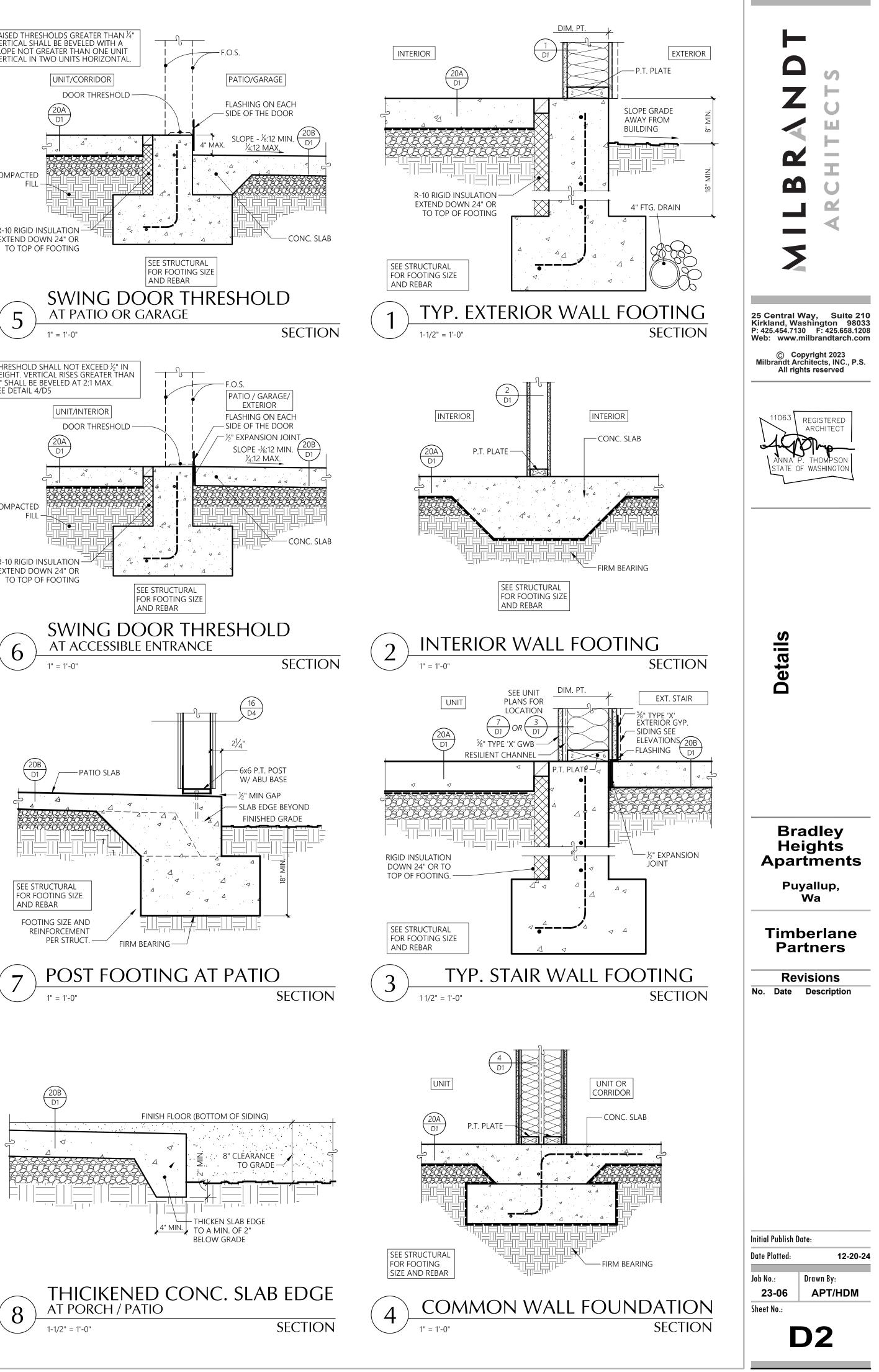


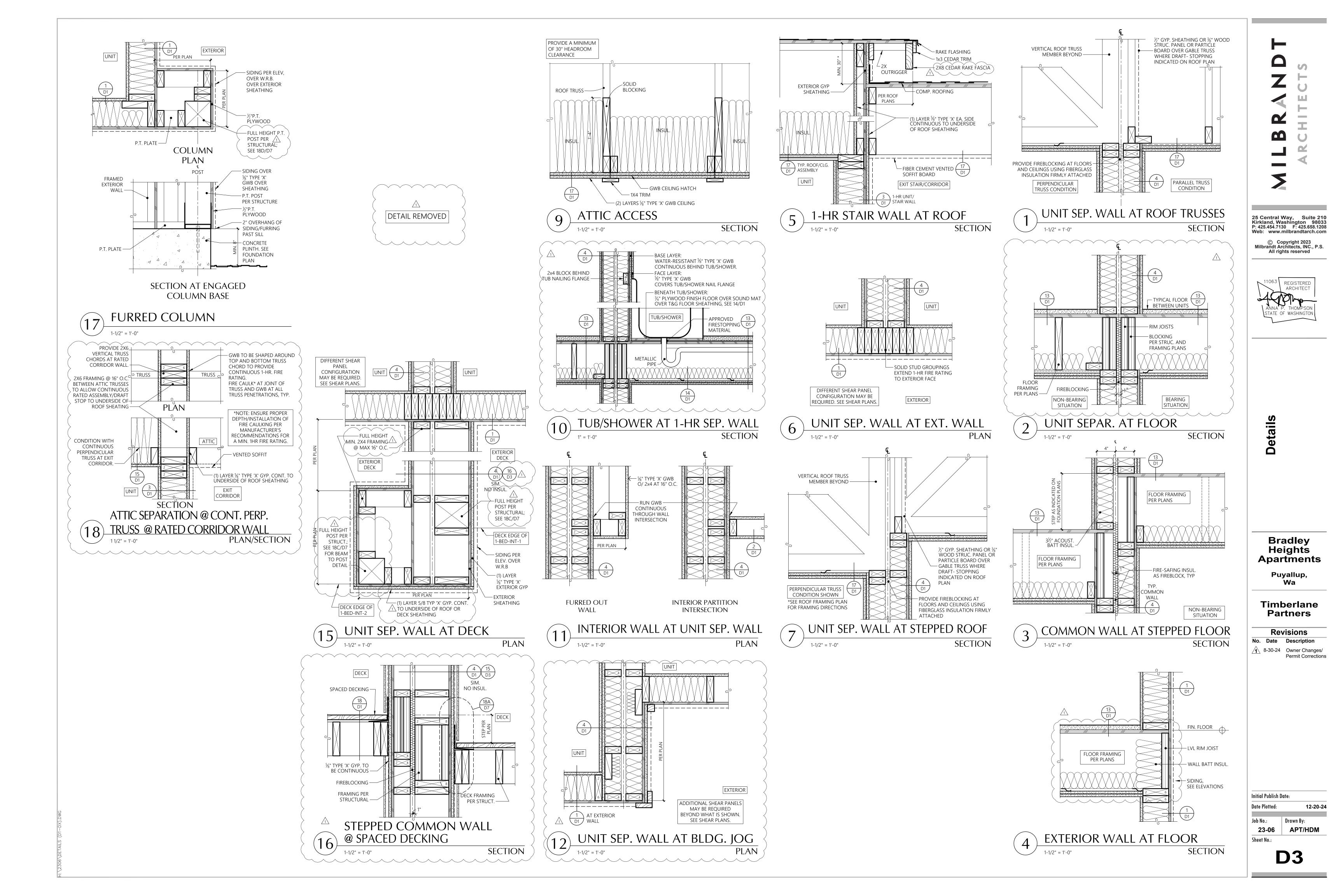


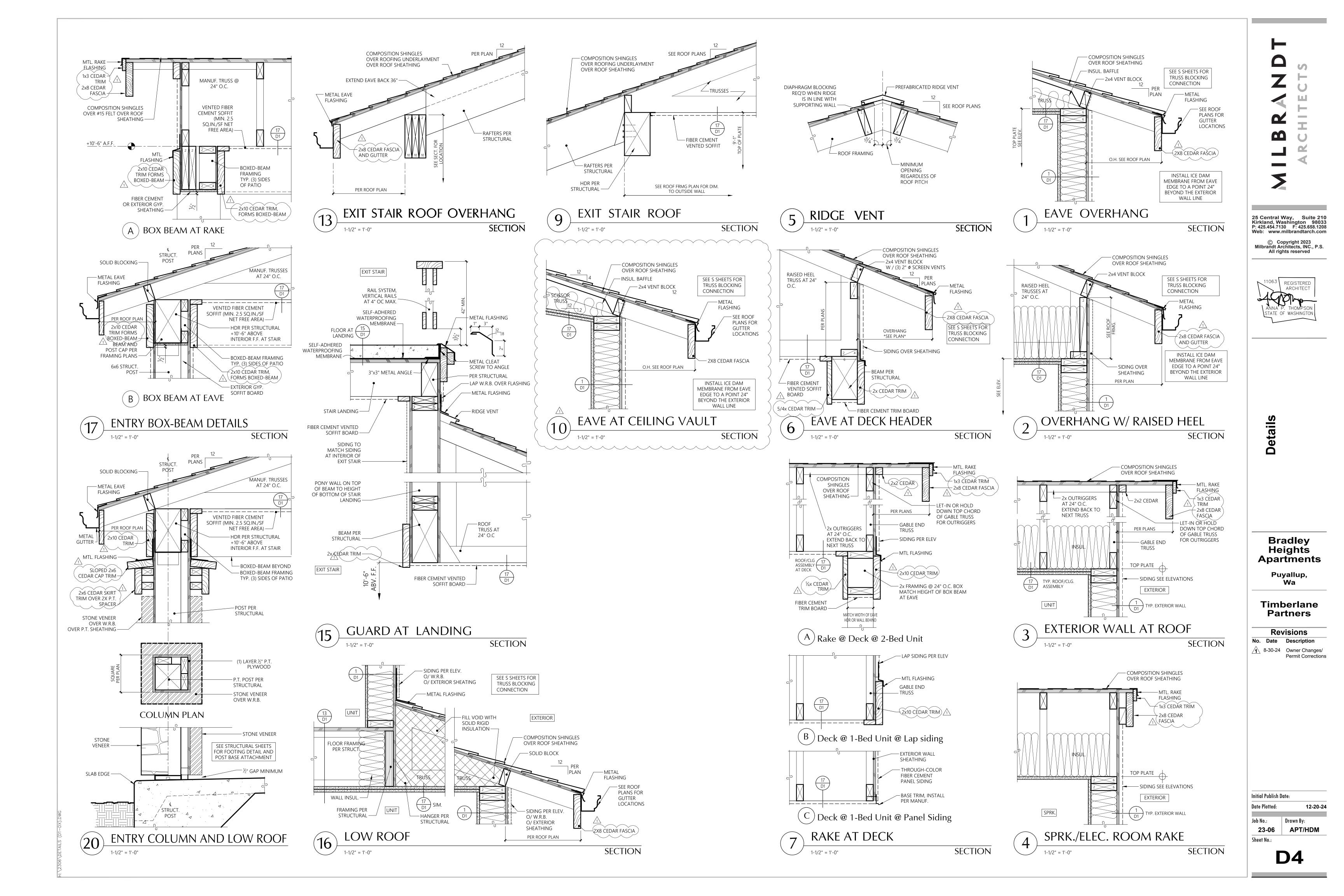


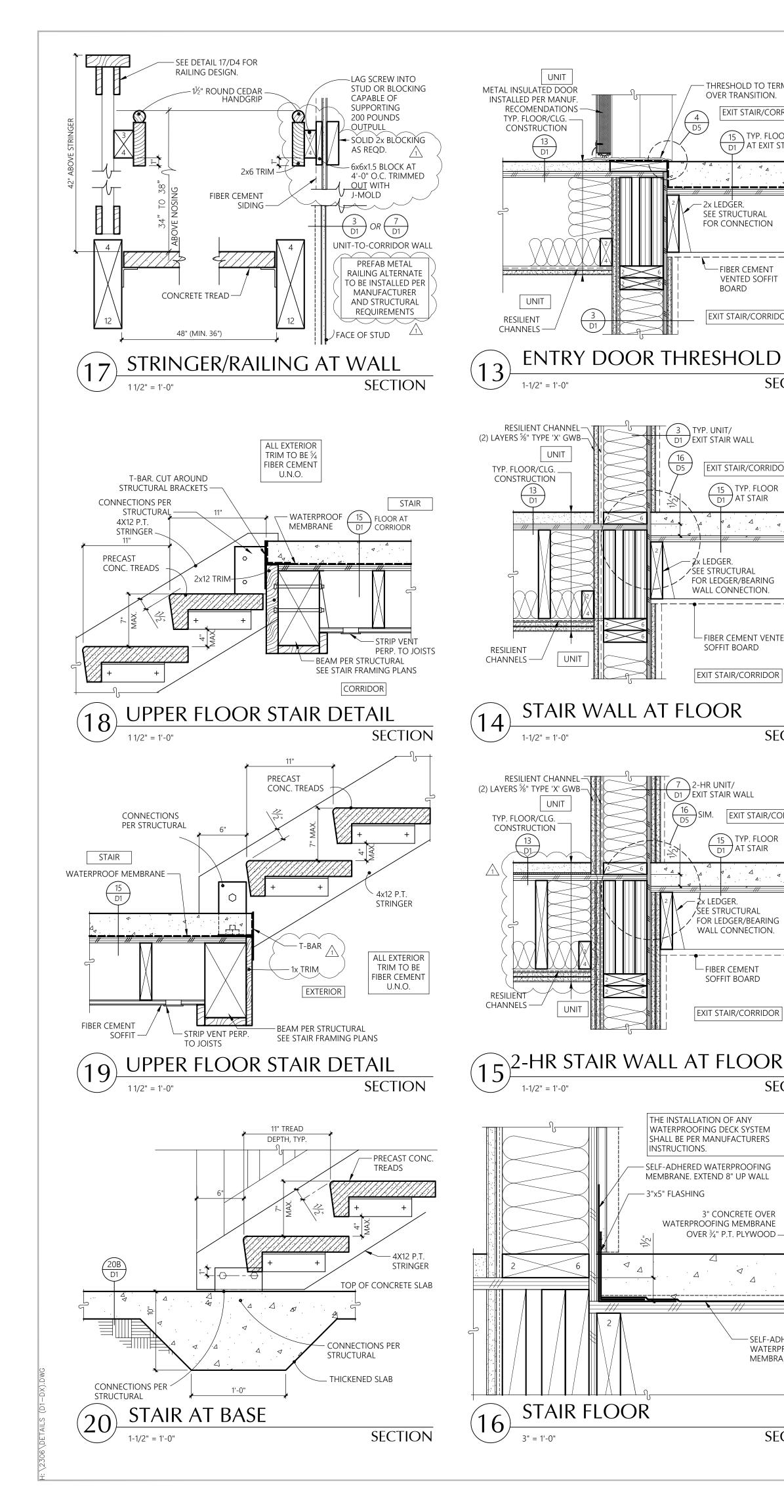


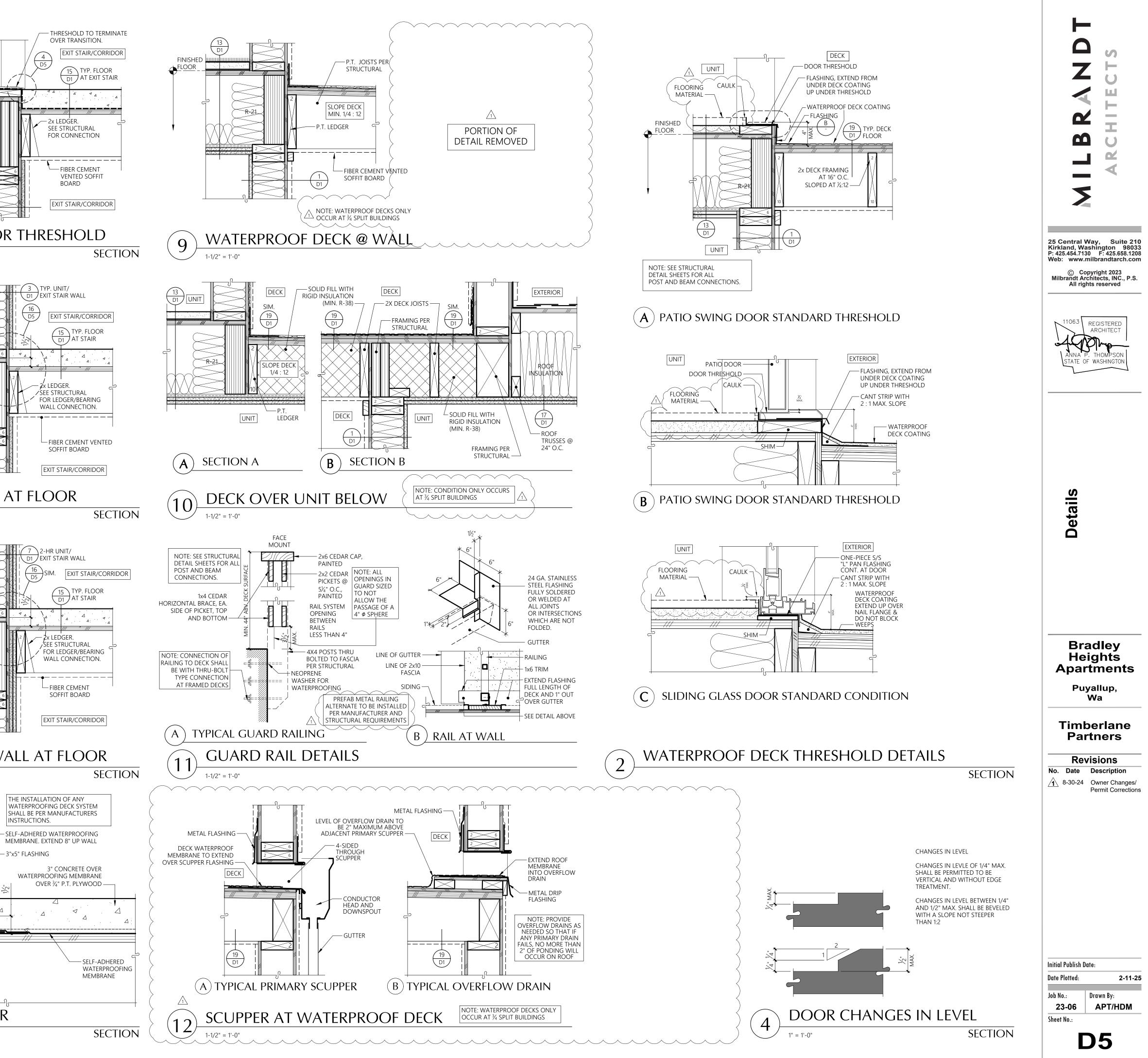


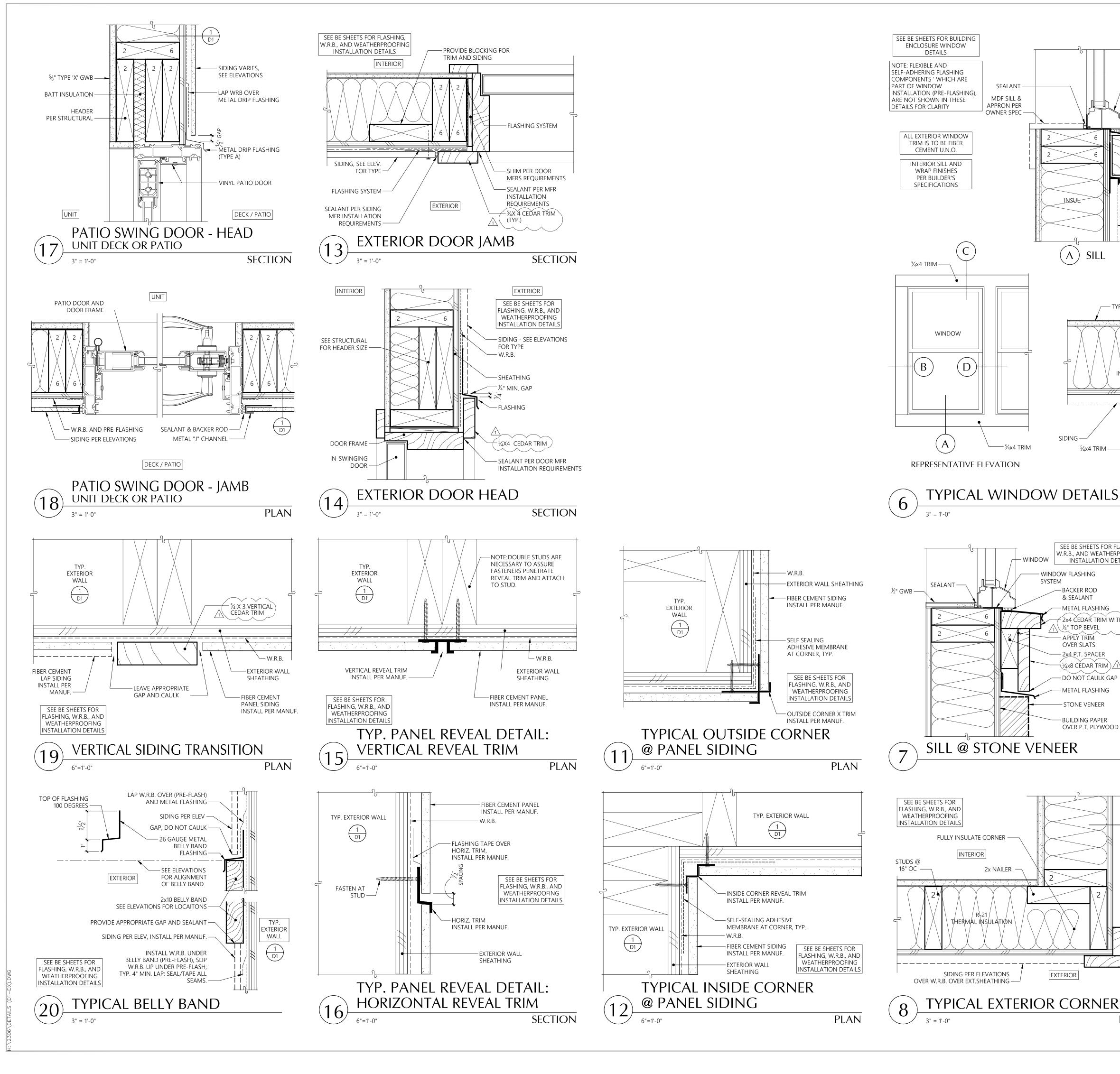


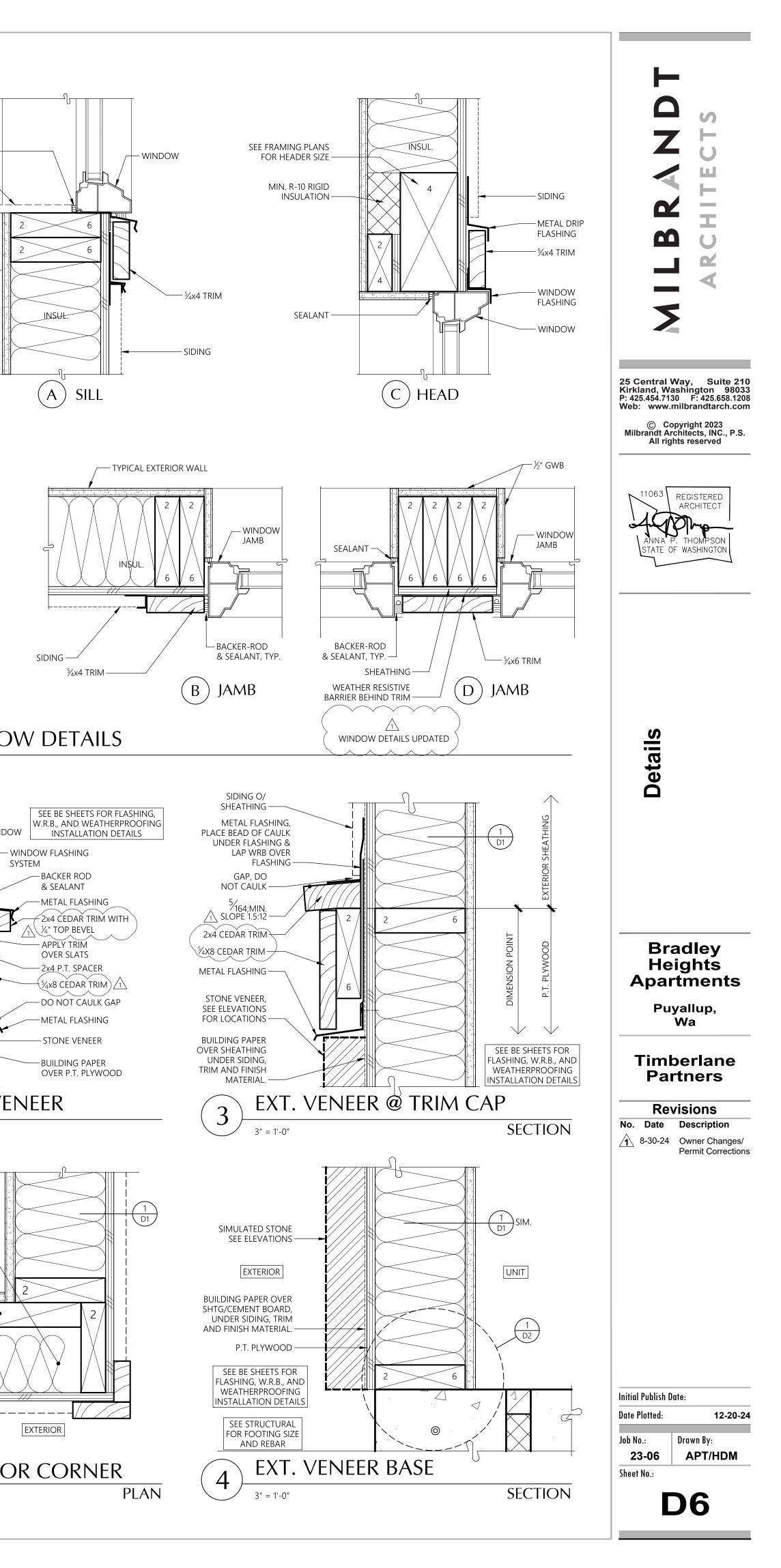


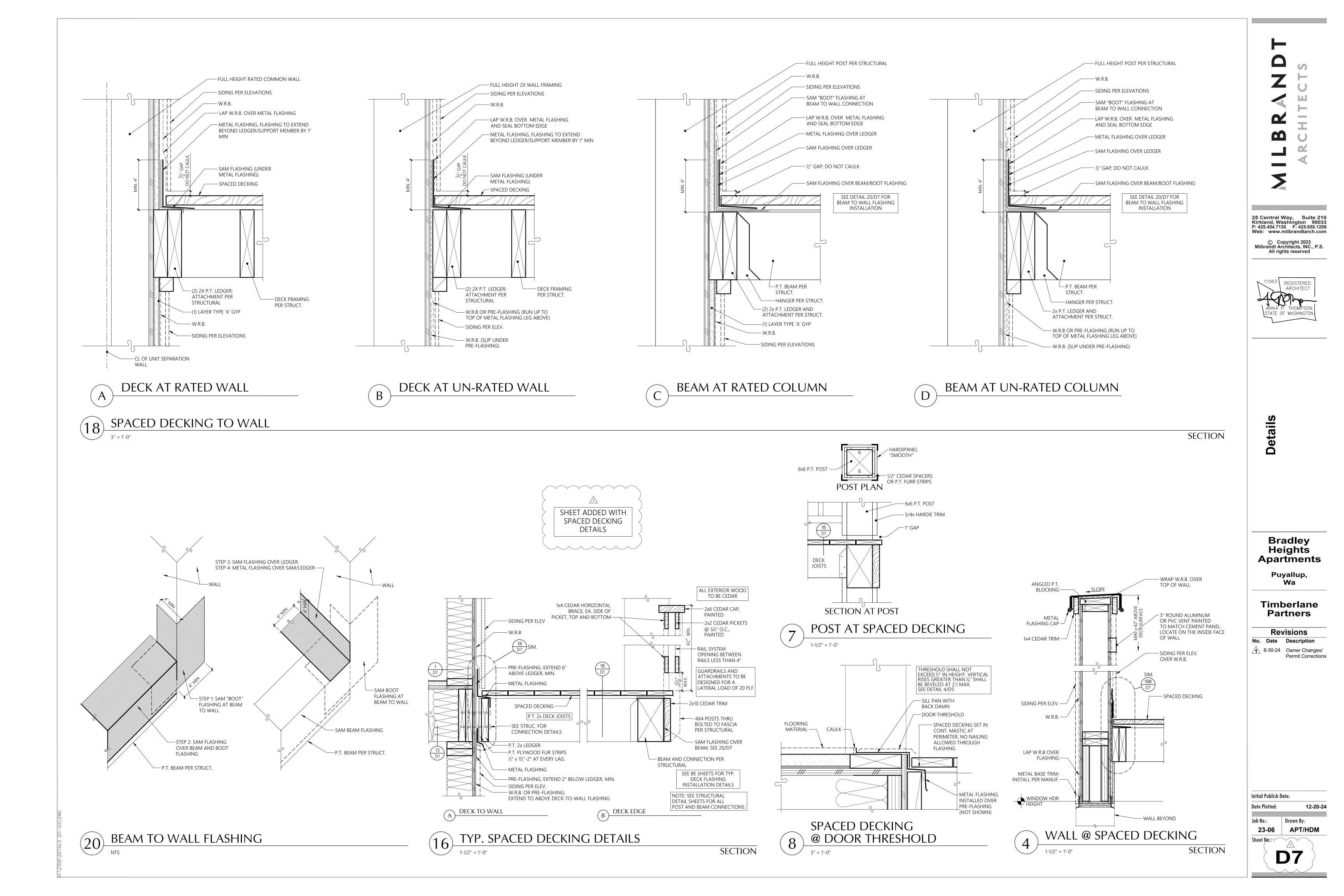


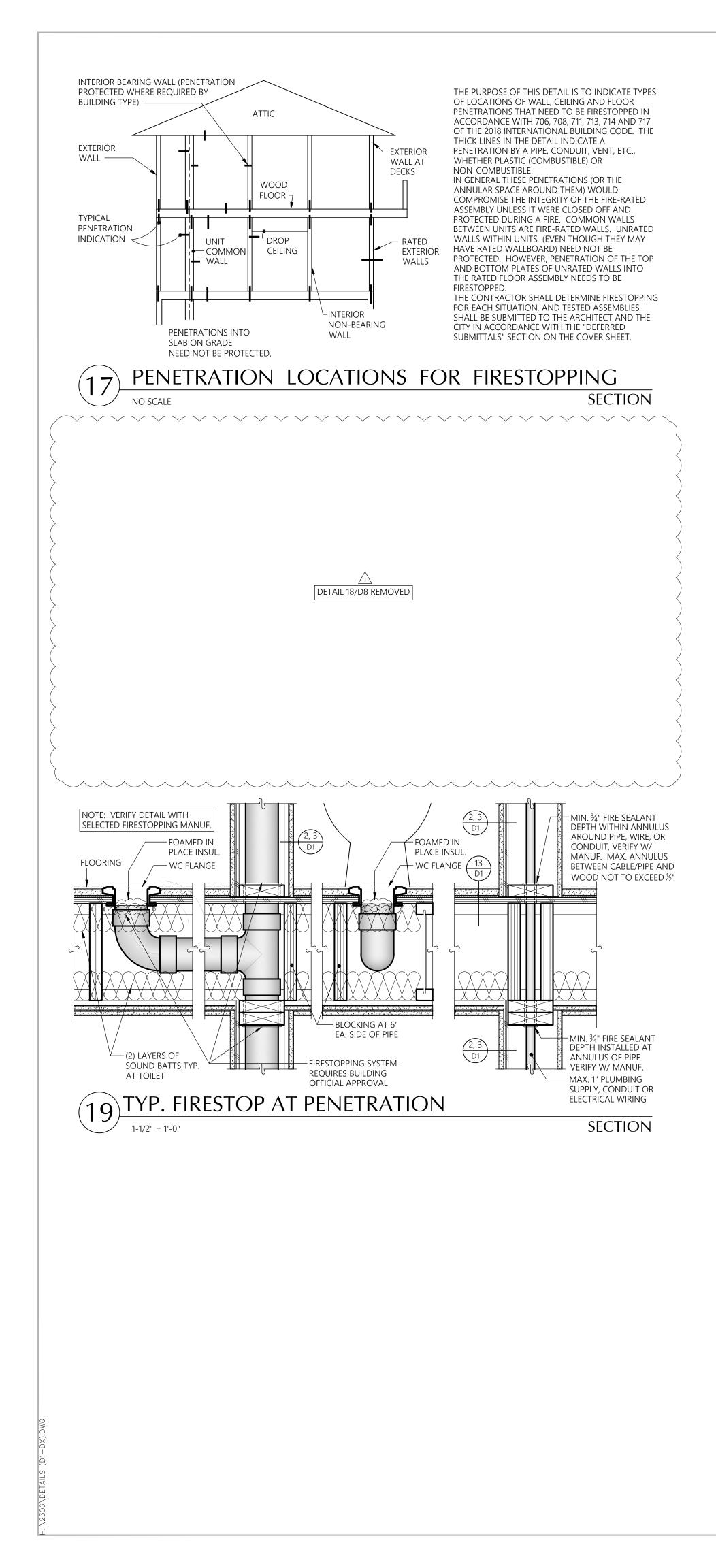


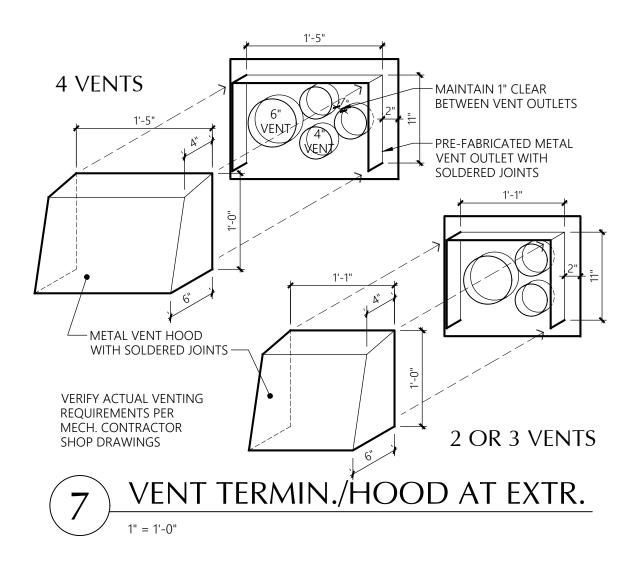












Insulation - General

All insulation materials shall be installed according to the manufacturer's instructions to achieve proper densities, and maintain uniform R-values. Substantial contact of the insulation with the surface being insulated is required.

Where required, insulation shall be installed with clearances according to manufacturer's specifications. Insulation shall be installed so that required ventilation is unobstructed. For blown or poured loose fill insulation clearances shall be maintained through installation of a permanent retainer.

Slab on Grade

R-10 slab on grade insulation shall be installed inside the foundation wall.

Insulated Floors

Floor insulation shall be installed in a permanent manner in substantial contact with the surface being insulated. Insulation supports shall be installed so spacing is no more than twenty-four inches on center.

Floors separating conditioned space from unconditioned space shall have a vapor barrier installed. Vapor barrier shall be installed on the warm side of the insulation. The vapor barrier shall have a one perm dry cup rating or less (i.e. four mil. polyethylene or kraft faced material). The floor sheathing may be used as the vapor barrier if rated (and so stamped) at one perm (max.) Otherwise place vapor barrier on top of joists before placing sheathing.

Exterior Walls

All wall insulation shall fill the entire cavity. Exterior wall cavities isolated during framing shall be fully insulated to the levels of the surrounding walls. All faced insulation shall be face stapled to avoid compression.

Walls separating conditioned space from unconditioned space shall have a vapor barrier installed. Faced batt insulation shall be face stapled. Vapor barrier shall be installed on the warm side of the insulation.

Air Leakage

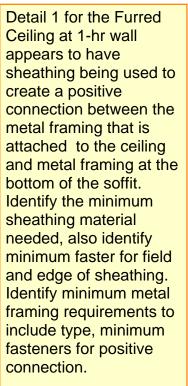
These air leakage notes apply to those locations separating outdoor ambient conditions from interior spaces that are heated or mechanically cooled.

Exterior joints around windows and door frames, between wall cavities and window or door frames, openings between walls and foundation, between walls and roof and wall panels; openings at penetrations of utility services through walls, floors and roof; and all other openings in the building envelope shall be sealed, caulked, gasketed, or weatherstripped to limit air leakage in a manner approved by the building official.

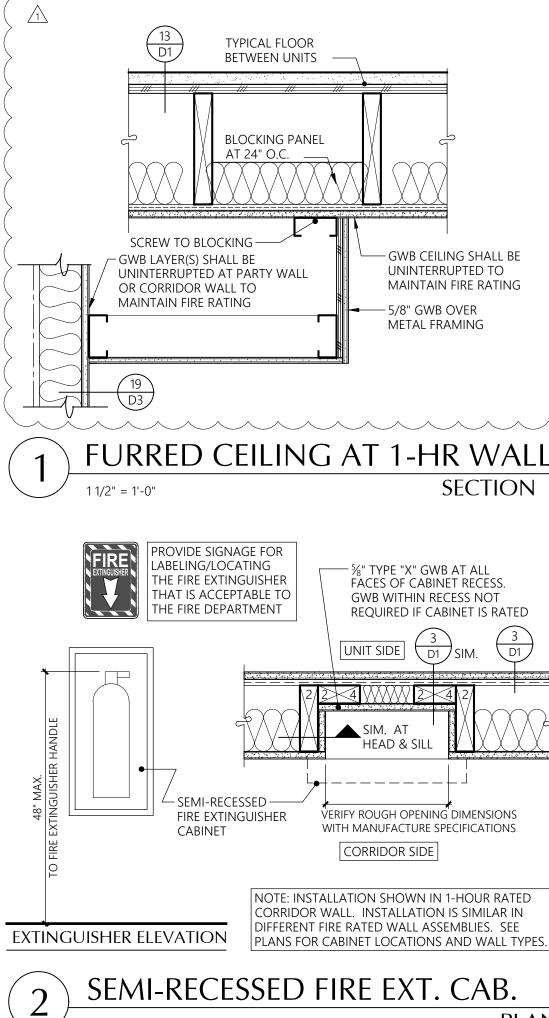
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REMOVED DETAIL 6/D7

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(Construction Set, Sheet D8, Detail 1)



1-1/2" = 1'-0"

INSULATION AND ENERGY NOTES

Doors

All exterior doors or doors serving as access to an enclosed unheated area shall be weatherstripped to limit leakage around their perimeter when in a closed position.

The thermal transfer characteristics of insulated doors shall be determined per NFRC 100-91.

Windows:

Glazing U-values shall be determined in accordance with NFRC 100-91.

Windows and SGD shall be double glazed vinyl type with the U-values indicated on the unit plans.

Windows shall be furnished with outdoor air inlets as indicated on the Unit Electrical plans. Inlets shall have a controllable and secure opening and be capable of a total opening area of not less than four (4) square inches and tested by a nationally recognized standard or approved agency and located to avoid drafts. Inlets shall be screened or otherwise protected from entry by insects, leaves, or other material.

Roof/Ceilings:

Roof/Ceiling insulation: Open-Blown or poured loose fill insulation may be used in attic spaces where the slope of the ceiling is more than 4 in 12 and there is at least 44 inches of clear distance from the top of the bottom chord of the truss or ceiling joist to the underside of the sheathing. When eave vents are installed, baffling of the vent openings shall be provided so as to deflect the incoming air above the surface of the insulation. Baffles shall be rigid material, resistant to wind driven moisture. When feasible, the baffles shall be installed from the top of the outside of the exterior wall, extending inward, to a point six inches vertically above the height of noncompressed insulation, and twelve inches vertically above loose fill insulation. Baffles shall be in place at the time of framing inspection.

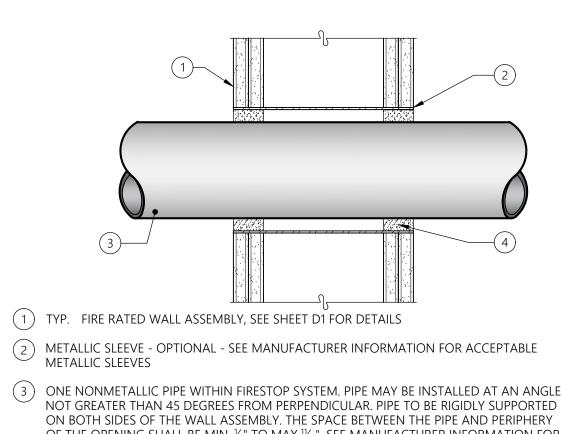
Where the ventilation space above the insulation is less than an average of twelve inches roof ceiling assemblies shall be provided with a vapor barrier having a 0.5 perm cup rating or less. Faced batt insulation where used as a vapor barrier shall be face stapled.

Vapor barriers shall not be required in roof/ceiling assemblies where the ventilation space above the insulation averages twelve inches or greater.

Vapor barriers shall be installed on the warm side of the insulation.



PLAN



OF THE OPENING SHALL BE MIN. $\frac{1}{4}$ " TO MAX $\frac{1}{16}$ ". SEE MANUFACTURER INFORMATION FOR ACCEPTABLE PIPE TYPES AND SIZES. (4) FOR 1 HR F RATING, MIN. 5/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF THE WALL. FOR 2 HOUR F RATING, MIN 1-1/4" THICKNESS

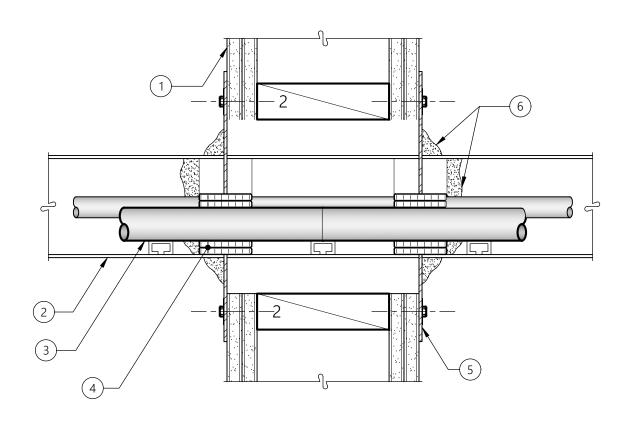
OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL.

HILTI FS-ONE OR FS-ONE MAX INTMESCENT SEALANT



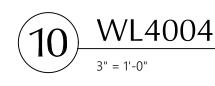
SECTION

NOTE: ALL DETAILS ON THIS SHEET ARE RECOMMENDED FIRE RATED PENETRATION DETAILS BASED ON PRODUCTS LISTED IN 12/D9. OTHER PRODUCTS MEETING THE SAME LEVEL OF ASSEMBLY SHALL BE DEEMED ACCEPTABLE.



- (1) TYP. FIRE RATED WALL ASSEMBLY, SEE SHEET D1 FOR DETAILS
- (2) MAX 24" WIDE BY MAX 4" DEEP OPEN LADDER STEEL OR ALUMINUM CABLE TRAY. CABLE TRAY TO CONSIST OF CHANNEL-SHAPED SIDE-RAILS WITH BOXED CHANNEL RUNGS SPACED 9" O.C. CABLE TRAY CENTERED IN FRAMED OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
- (3) AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN CABLE TRAY NOT TO EXCEED 32% OF THE CROSS-SECTIONAL AREA OF THE CABLE TRAY BASED ON A MAX 3" CABLE LOADING DEPTH WITHIN THE CABLE TRAY. ACCEPTABLE TYPES AND SIZES OF CABLE AS NOTED BY MANUF.
- (4) RIGID ALUMINUM FOIL-FACED SHEET WITH GALV. STEEL SHEET BACKER. SHEETS CUT TO TIGHTLY FOLLOW THE CONTOURS OF THE CABLES AROUND THE ENTIRE PERIMETER OF THE CABLE TRAY AND CABLE FILL. SHEETS CUT TO LAP A MIN. OF 2" ON THE WALL ON ALL SIDES OF THE OPENING ON BOTH SIDES OF THE WALL.
- (5) MIN. 2" WIDE STRIP OF MIN 0.020" THICK (26 GAUGE) GALV. STEEL CENTERED OVER ENTIRE LENGTH OF EACH BUTTED SEAM OR SLIT MADE IN THE INTUMESCENT SHEET. INSTALL PER MANUF.
- (6) ONE LAYER OF $\frac{1}{2}$ " x $\frac{1}{16}$ " ADHESIVE BACKED GRAPHITE INTUMESCENT SEAL POSITIONED UNDER INTUMESCENT SHEET AROUND ENTIRE PERIMETER OF THROUGH OPENING OR MIN. $\frac{1}{4}$ " DIAM. CONTINUOUS BEAD OF CAULK OR PUTTY APPLIED TO EDGE OF INTUMESCENT SHEET AT ITS INTERFACE WITH SURFACE OF FLOOR OR WALL AROUND ENTIRE PERIMETER OF THROUGH OPENING. CAULK APPLIED TO FILL ALL INTERSTICES BETWEEN CABLES AND BETWEEN CABLES AND WRAP STRIP (ITEM 4). CAULK DEPTH TO BE MIN. 2" WITHIN CONFINES OF WRAP STRIP ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. GENEROUS APPLICATION OF CAULK TO BE APPLIED AROUND THE BASE OF THE CABLE TRAY SIDE-RAILS AND CONTOUR APPLIED WRAP STRIPS AT THEIR EGRESS FROM THE INTUMESCENT SHEET ON BOTH SIDES OF THE WALL ASSEMBLY. CAULK ALSO APPLIED TO COVER ALL EXPOSED EDGES OF WRAP STRIPS TO A MIN. THICKNESS OF %"

SEE MANUF. INFORMATION FOR USE OF PUTTY AS CAULKING ALTERNATIVE.



1

SECTION

ASSOCIATED

DETAIL

CP25WB+ 4/D8

CP25WB+ 6/D8

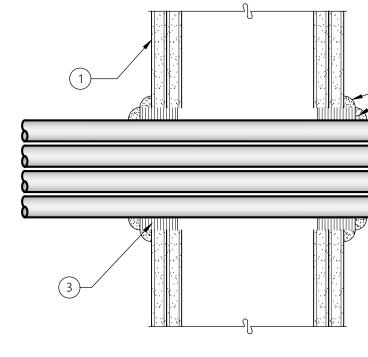
MOLDABLE 7/D8

CP25WB+ CS195+ 10/D8

ANSI UL263 MOLDABLE 8/D8

- (1)— (2)-(1) TYP. FIRE RATED WALL ASSEMBLY, SEE SHEET D1 FOR DETAILS
- (2) NOM. 36" x 30" (OR SMALLER) NO. 24 GAUGE (OR HEAVIER) GALV. STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. AN
- (3) PACKING MATERIAL (OPTIONAL) POLYETHYLENE BACKER ROD, MINERAL WOOL BATT INSULATION OR FIBERGLASS BATT INSULATION FRICTION-FIT INTO ANNULAR SPACE FOR 2 HR RATED WALL ASSEMBLIES ONLY. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL (ITEM
- (4) MIN. ⁵/₈" THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL ASSEMBLY. AT THE POINT CONTACT LOCATION BETWEEN DUCT AND WALLBOARD, A MIN $\frac{1}{4}$ " DIAM. BEAD OF SEALANT SHALL BE APPLIED AT THE WALLBOARD/DUCT INTERFACE ON BOTH SURFACES OF WALL ASSEMBLY.
- (5) MIN. 16 GAUGE GALV. STEEL ANGLES SIZED TO LAP DUCT A MIN OF 2" AND LAP WALL SURFACES OF A MIN OF 1". ANGLES ATTACHED TO DUCT ON BOTH SIDES OF WALL WITH MIN ½" LONG, NO. 10 (OR LARGER) SHEET METAL SCREWS SPACED A MAX OF 1" FROM EACH END OF DUCT AND SPACED A MAX OF 6" OC.

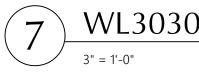




- (1) TYP. FIRE RATED WALL ASSEMBLY, SEE SHEET D1 FOR DETAILS
- (2) CABLES MAX 4 IN. DIAM TIGHT BUNDLE OF CABLES CENTERED IN CIRCULAR CUTOUTS IN GWB AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE WALL ASSEMBLY. SEE MANUFACTURER INFORMATION FOR ACCEPTABLE TYPES AND SIZES CABLES.
- (3) WRAP STRIP NOM ¼" THICK INTUMESCENT MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN NOM 2 IN. WIDE STRIP TIGHTLY WRAPPED AROUND CABLE BUNDLE (FOIL SIDE OUT) WITH SEEM BUTTED. WRAP STRIP SECURELY BOUND WITH STEEL WIRE TIE AND SLID INTO ANGULAR SPACE APPROX. 1-1/4" SUCH THAT APPROX 3/4" OF THE WRAP WIDTH PROTRUDES FROM WALL SURFACE ON EACH SIDE OF ASSEMBLY
- (4) MIN. ¼" THICKNESS DIAM OF MOLDABLE PUTTY APPLIED TO THE WRAP STIP/WALL INTERFACE AND TO THE EXPOSED EDGE OF WRAP STRIP APPROX 3/4" FROM WALL SURFACE ON EITHER SIDE OF ASSEMBLY. PUTTY TO BE FORCED INTO INTERSTICES OF CABLE BUNDLE TO MAX EXTENT POSSIBLE WITHIN CONFINES OF THE WRAP STRIP EACH SIDE OF ASSEMBLY



WL3030



ASSEMBLY, SEE SHEET

D1 FOR DETAILS

(Construction Set, Sheet D9, Detail 12, Matrix of UL Tested)

details and detail sheets in matrix.

MATRIX OF UL TESTED SYSTEMS:

PENETRATING ITEM ASSEMBLY

METAL PIPE/CONDUIT GYP. WALLS

MULTIPLE METAL

INSULATED PIPE

HVAC DUCTS

BUND CABLES

CABLE TRAYS

12

ELEC. OUTLET BOXES

NOTE:

Update details call outs to reflect correct

THESE FIRESTOPPING DETAILS ARE REPRESENTATIVE OF TYPICAL SITUATIONS ONLY. FOR OTHER CONDITIONS REFER TO 3M MATRIX OF UL TESTED SYSTEMS BELOW. IF CONDITION IS NOT

COVERED IN THIS MATRIX, CONTACT MANUFACTURER FOR TESTED ASSEMBLY RECOMMENDATION.

1&2 HR

1&2 HR

1&2 HR

1&2 HR

MATRIX OF UL TESTED

1&2 HR WL3031

SYSTEMS FOR FIRESTOPPING

RATING SYSTEM PROD

WL5039

WL7008

WL4004

1,2&3 HR WL1001 CP25WB+ 1/D8

1&2 HR | WL1016 | CP25WB+ | 2/D8

ALL FIRESTOP DETAILS TO BE EXECUTED BY LICENSED AND/OR CERTIFIED INSTALLER.

FIRESTOPPING PENETRATIONS AND VOIDS IN RATED CONSTRUCTION:

GYP. WALLS

GYP. WALLS

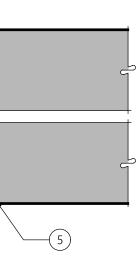
GYP. WALLS

GYP. WALLS

GYP. WALLS

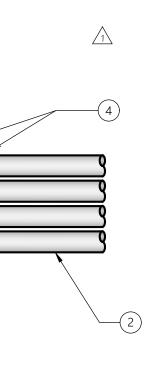
GYP. WALLS

ANSI / UL 263 8 3" = 1'-0"

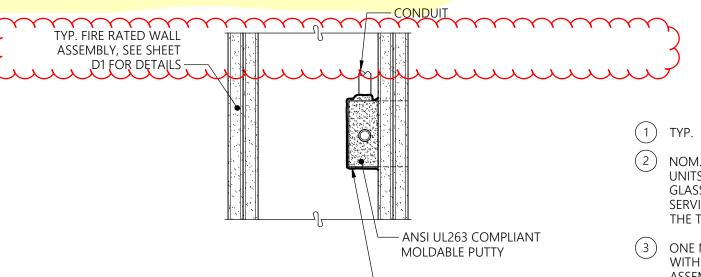


ANNULAR SPACE OF MIN 0" TO MAX 2" IS REQUIRED WITHIN THE FIRESTOP SYSTEM.

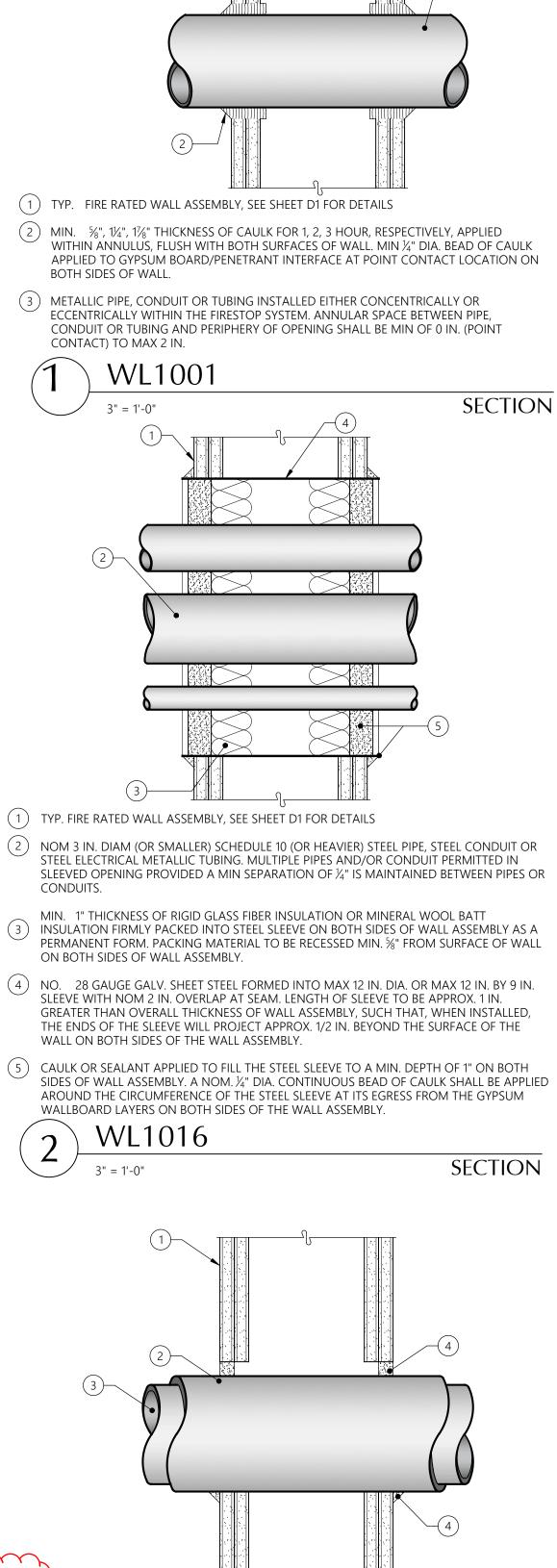
SECTION



SECTION



SECTION



(1) TYP. FIRE RATED WALL ASSEMBLY, SEE SHEET D1 FOR DETAILS

(2) NOM. ½" TO 2" THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN 3.5 PCF) GLASS FIBER UNITS FOR 1 HR RATED ASSEMBLIES, NOM $\frac{1}{2}$ " TO $\frac{1}{2}$ " THICK CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS FOR 2 HR RATED ASSEMBLIES, JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. THE ANNULAR SPACE BETWEEN THE INSULATED PIPE AND THE EDGE OF THE THROUGH OPENING SHALL BE MIN 0" TO MAX. 11/4"

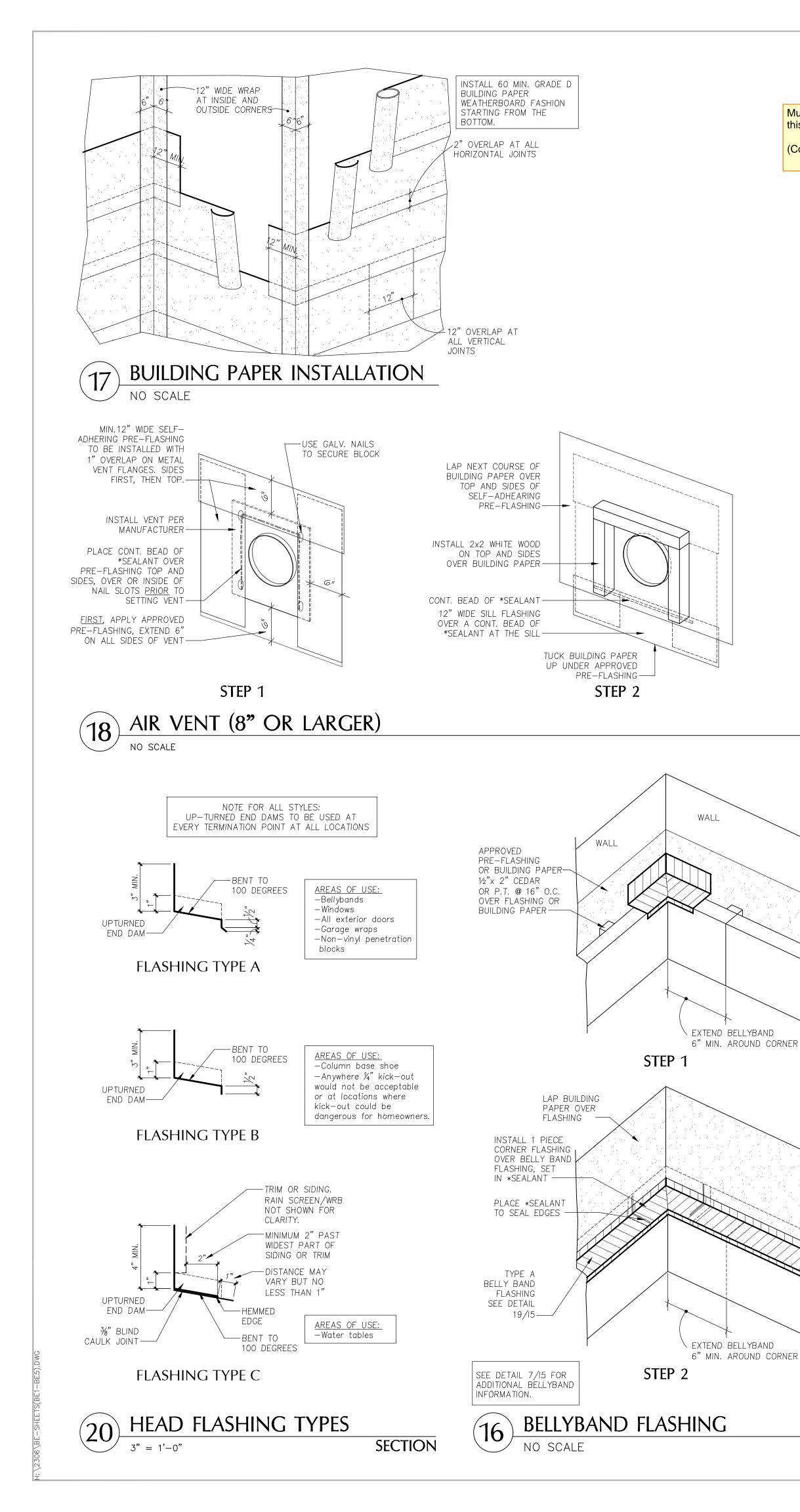
(3) ONE METALLIC PIPE OR TUBE TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

(4) MIN. ⁵/₈" THICKNESS OF CAULK APPLIED WITHIN ANNULAR SPACE FLUSH WITH EACH SURFACE OF WALL. A MIN. ½" DIAM. BEAD OF CAULK SHALL BE APPLIED TO THE PIPE INSULATION/ WALLBOARD INTERFACE AT THE POINT CONTACT LOCATION ON BOTH SIDES OF WALL.



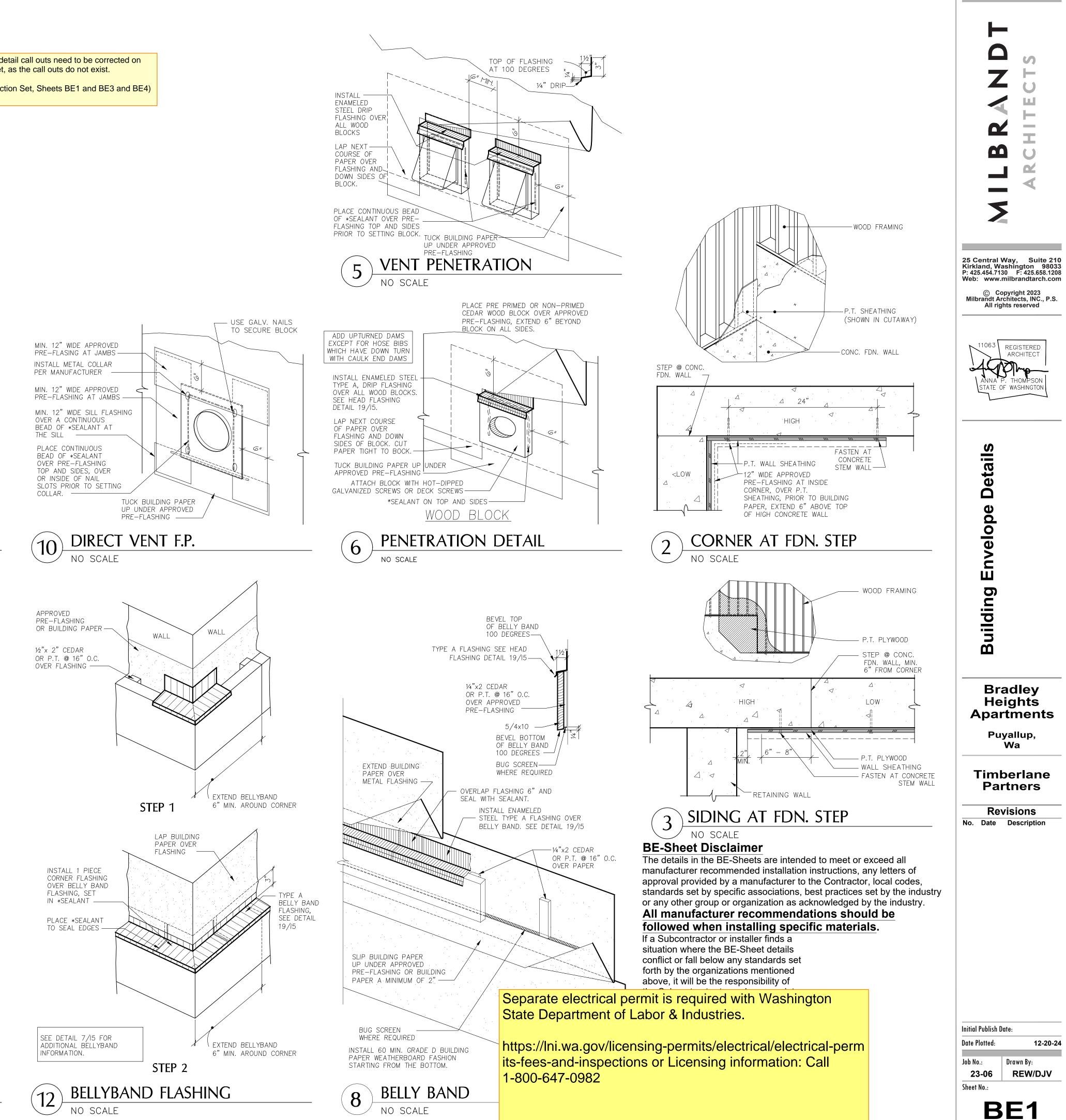
SECTION

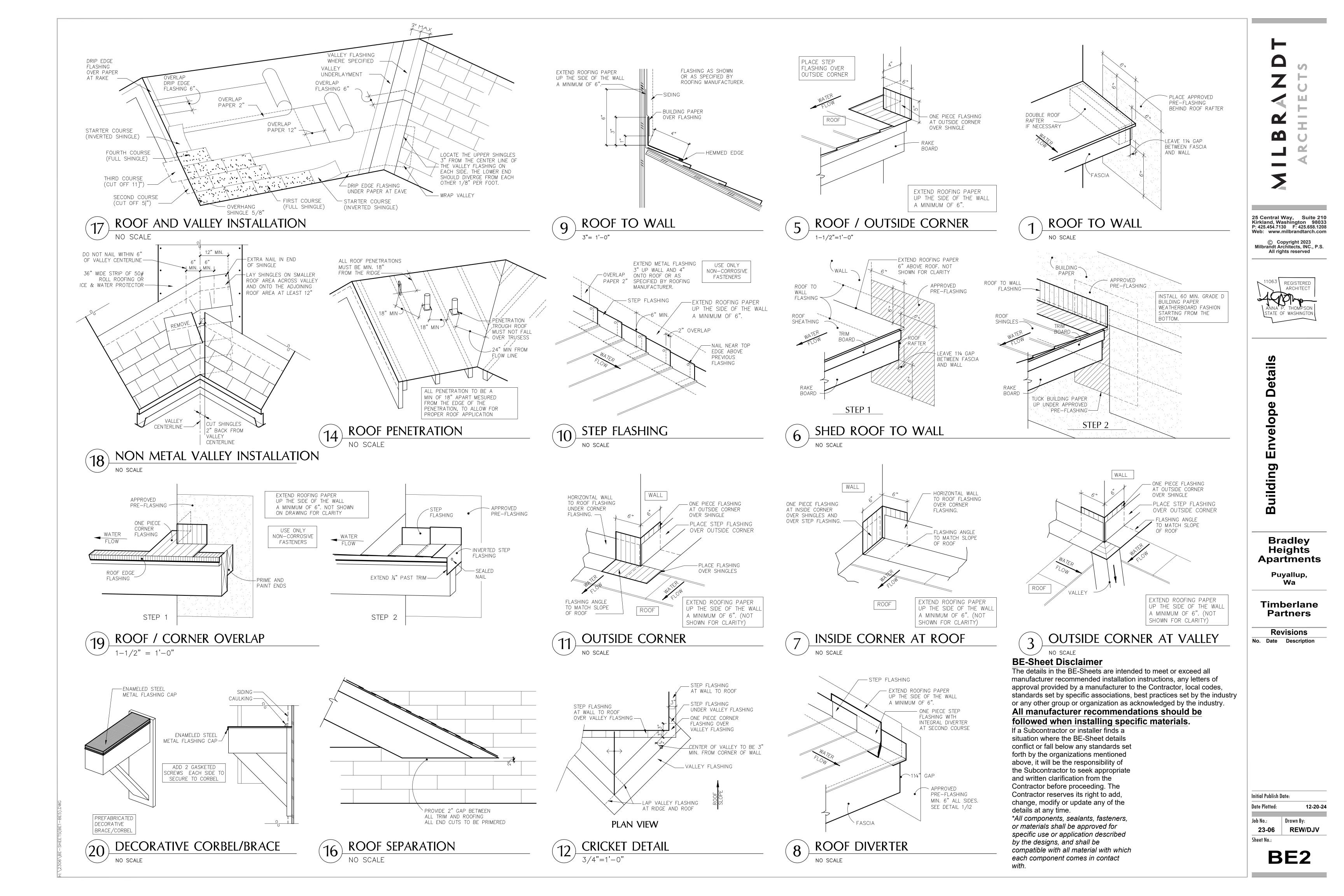


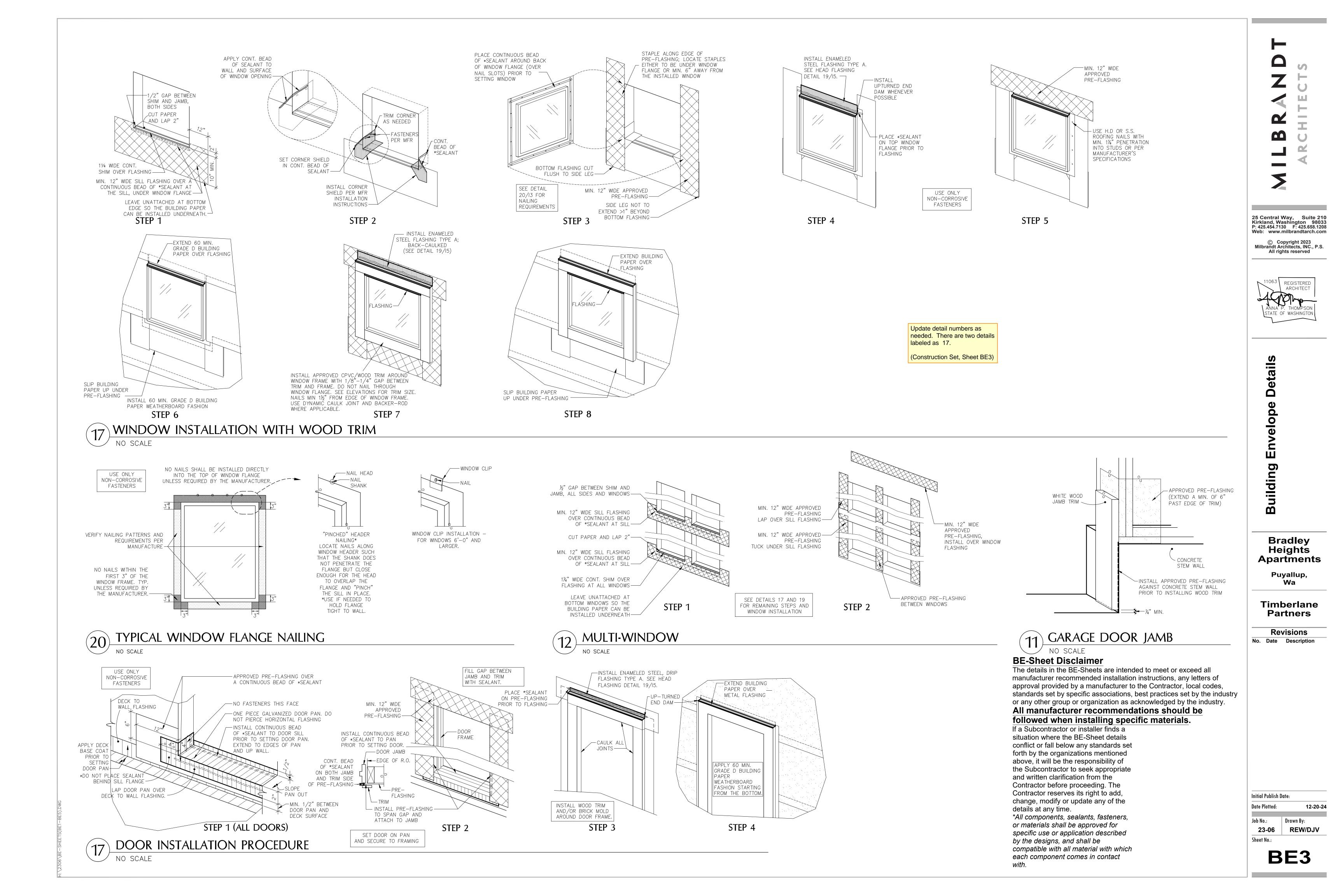


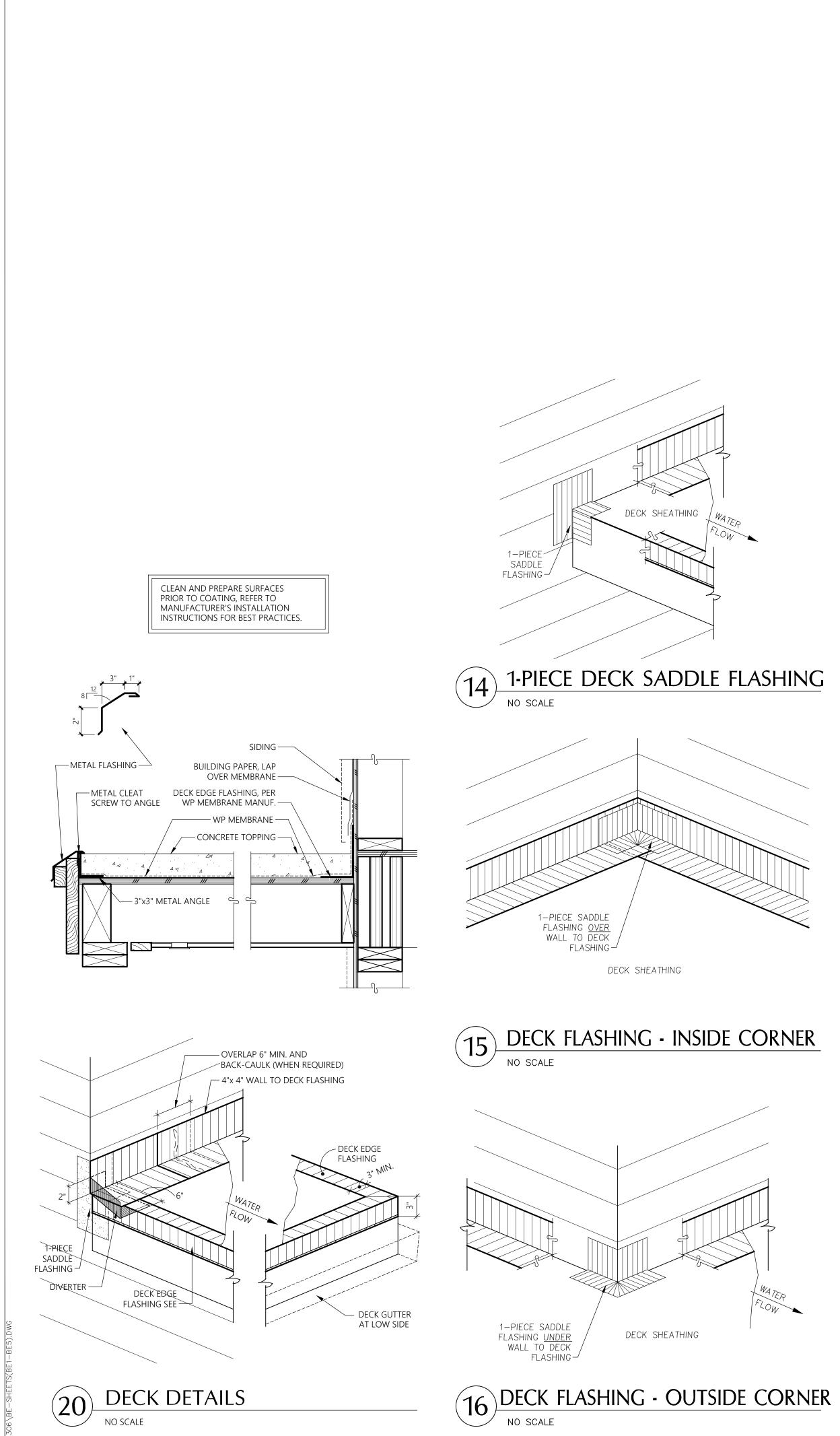
Multiple detail call outs need to be corrected on this sheet, as the call outs do not exist.

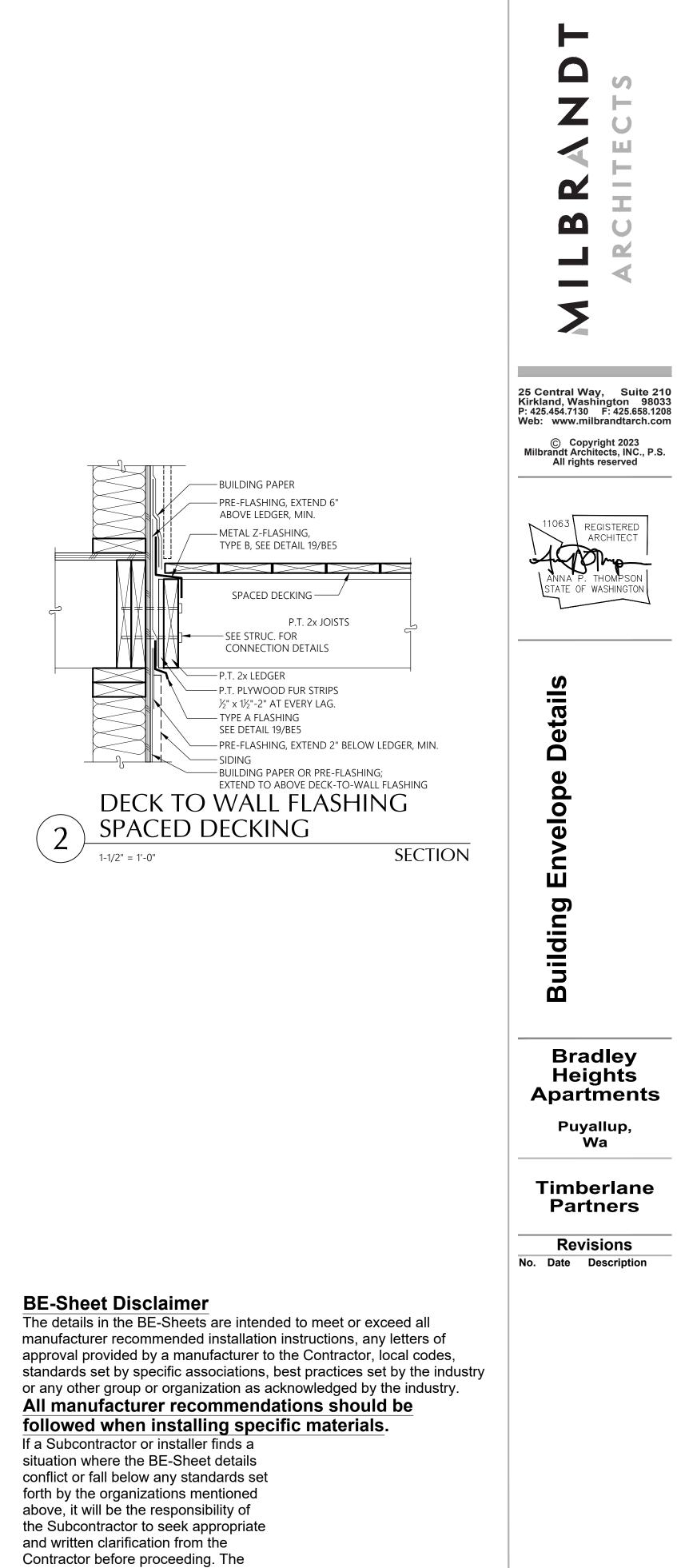
(Construction Set, Sheets BE1 and BE3 and BE4)











Contractor reserves its right to add,

details at any time.

with.

change, modify or update any of the

*All components, sealants, fasteners,

specific use or application described

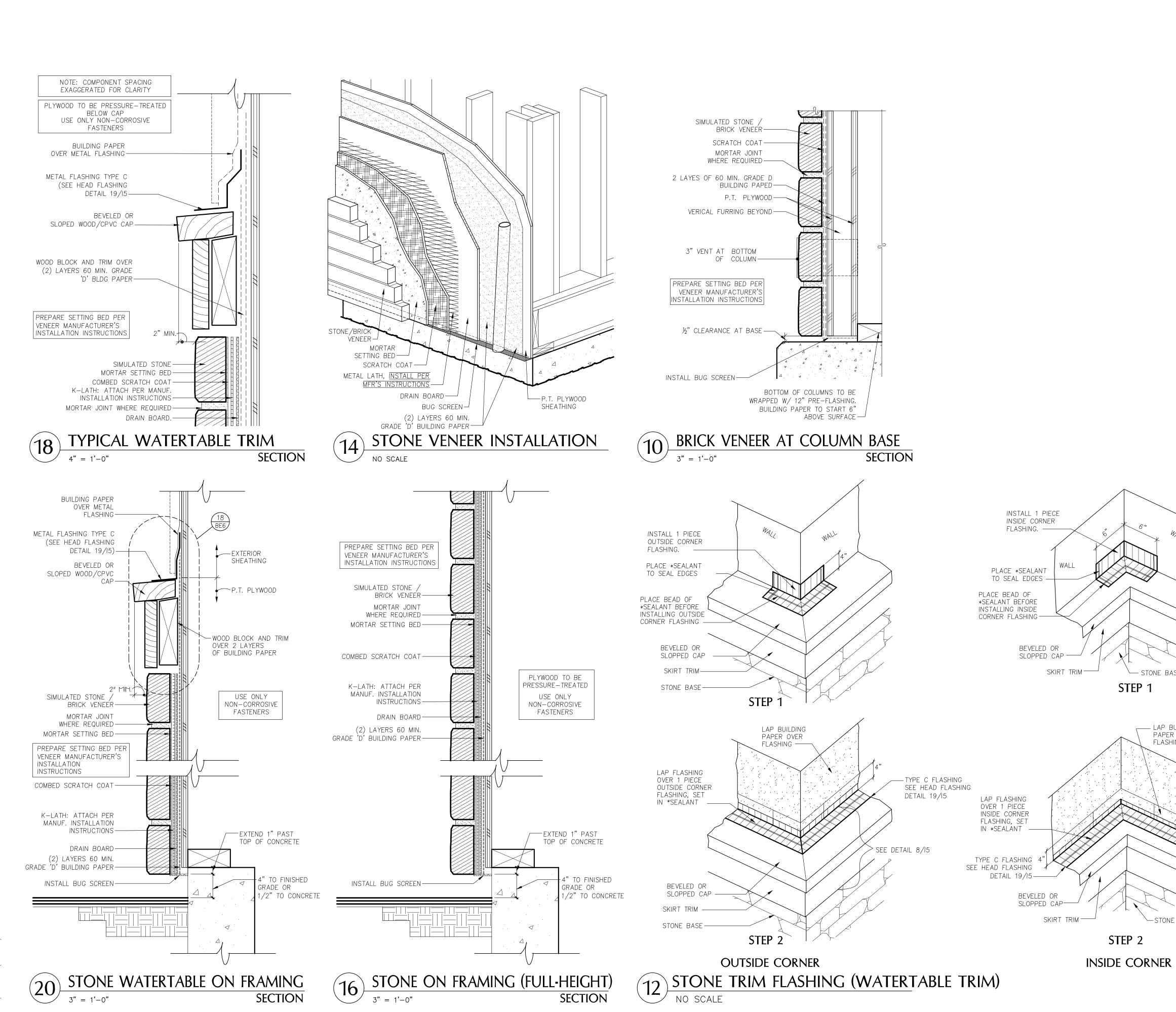
compatible with all material with which

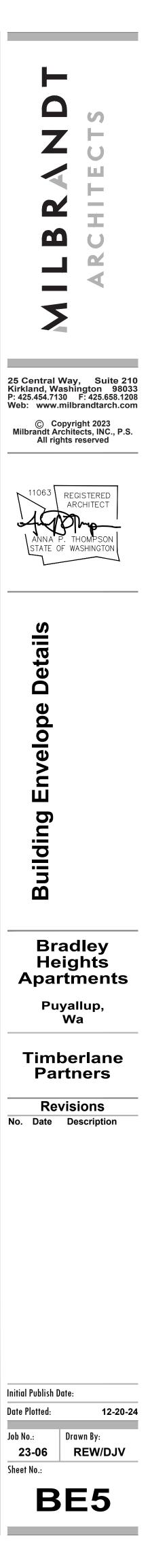
each component comes in contact

or materials shall be approved for

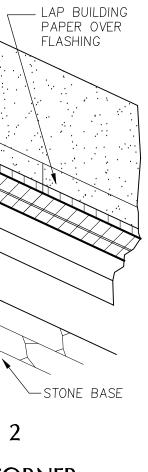
by the designs, and shall be

Initial Publish Date: Date Plotted: 12-20-24 Job No.: Drawn By: 23-06 **REW/DJV** Sheet No.: BE4





6" - STONE BASE



BE-Sheet Disclaimer

by the designs, and shall be

with.

compatible with all material with which

each component comes in contact

The details in the BE-Sheets are intended to meet or exceed all manufacturer recommended installation instructions, any letters of approval provided by a manufacturer to the Contractor, local codes, standards set by specific associations, best practices set by the industry or any other group or organization as acknowledged by the industry. All manufacturer recommendations should be followed when installing specific materials. If a Subcontractor or installer finds a situation where the BE-Sheet details conflict or fall below any standards set forth by the organizations mentioned above, it will be the responsibility of the Subcontractor to seek appropriate and written clarification from the Contractor before proceeding. The Contractor reserves its right to add, change, modify or update any of the details at any time. *All components, sealants, fasteners, or materials shall be approved for specific use or application described

GENERAL NOTES - MECHANICAL

- REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
- 2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.
- CODES: COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.
- PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL DUCTWORK, DAMPERS, EQUIPMENT, PIPING, ETC.
- A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL B. COORDINATE FINAL LOCATION AND ROUTING WITH
- CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING,
- EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM.
- D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
- MECHANICAL CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITHIN THE STRUCTURE.
- ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.
- RATED PENETRATION: DUCT PENETRATIONS THROUGH RATED ENCLOSURES SHALL BE FIRE/SMOKE DAMPERED PER THE LATEST EDITION OF THE UNDERWRITERS LABORATORIES(UL) FIRE RESISTANCE WITH HOURLY RATINGS FOR THROUGH-PENETRATION FIRE STOPS SYSTEM VOLUME #2, OR SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S UL LISTINGS (3M OR EQUIVALENT). DETERMINE REQUIREMENTS WITH GENERAL CONTRACTOR PRIOR TO BID.
- EXHAUST OUTLETS: SOURCE-SPECIFIC FANS SHALL BE VENTED TO OUTDOORS WITH A MINIMUM 3' CLEARANCE BETWEEN VENT OUTLETS AND BUILDING OPENINGS, AND 10' MINIMUM BETWEEN VENT OUTLETS AND MECHANICAL AIR INTAKES.
- ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP. ROOF CURB. ROOF DRAIN. AND VTR DETAILS.
- 10. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.
- 11. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.
- 12. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.
- 13. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.
- 14. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD.
- 15. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

- PIPING: COORDINATE WITH STRUCTURAL FOR EXACT LOCATION OF ALL STRUCTURAL FRAMING AND FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL AND AT THE SITE PRIOR AND DURING THE CONSTRUCTION.
- DUCTWORK: LOCATE AND COORDINATE THE EXACT LOCATION OF DUCTWORK WITH STRUCTURAL PLANS AND WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY STRUCTURE OR EQUIPMENT. COORDINATE WITH FRAMING CONTRACTOR TO ASSURE JOIST SPACES LINE UP WHEN DUCTWORK MUST PASS THROUGH DIFFERENT JOIST SPACES.
- ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
- APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, ETC. CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH HIS MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THESE REQUIREMENTS IN HIS BID.
- FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.

GENERAL NOTES

PIPING NOTES

- 1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT. COILS. TRAPS. CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
- REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
- 3. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
- 4 DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.
- 5. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 6. CONDENSATE DRAIN: PROVIDE A P-TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.

INSULATION/LINING NOTES

- 1. ENERGY CODE: AS A MINIMUM, COMPLY WITH THICKNESSES AND TYPES LISTED IN ENERGY CODE ENFORCED BY AHJ.
- EXTENT OF INTERNAL DUCT LINING: A. GRILLE AND DIFFUSER BOXES AND BOOTS.
- 3. TRANSFER DUCTS. C. THE FIRST 10 FEET OF SUPPLY AND RETURN DUCTWORK FROM THE AIR HANDLER.
- EXTENT OF EXTERNAL DUCT INSULATION: A. SUPPLY AND RETURN AIR IN UNCONDITIONED SPACES.
- MECHANICAL ROOMS, ELECTRICAL ROOMS, AND EQUIPMENT ROOMS NOT SPECIFIED TO BE INTERNALLY I INFD
- B. SUPPLY AIR ABOVE CEILINGS OR EXPOSED NOT SPECIFIED TO BE INTERNALLY LINED.
- C. OUTDOOR AIR INTAKE.
- MISCELLANEOUS DUCT FITTINGS (CONICAL TAKEOFFS, ETC.): WRAP WITH INSULATION FOR CONDENSATION CONTROL.

<u>PLAN NOTES</u>

- 1. DUCTWORK SHALL BE METALLIC DUCTWORK
- 2. TEST AND BALANCE WORK SHALL BE PERFORMED BY AN INDEPENDENT TEST AND BALANCE AGENCY. PROVIDE (3) COPIES OF TEST AND BALANCE REPORT TO OWNER.
- 3. COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.
- 4. RESTROOM EXHAUST SHALL BE A MINIMUM OF 10' FROM ANY MECHANICAL OUTSIDE AIR INTAKES.
- 5. ROUTE DUCTWORK UNDERNEATH JOISTS UON.
- 6. TRANSITION DUCT UNDER BEAMS AND DUCTS. FIELD VERIFY AVAILABLE CEILING CAVITY DIMENSIONS.
- 7. COORDINATE MOUNTING HEIGHT OF DIFFUSERS WITH ARCHITECTURAL PLANS.

SHEET METAL NOTES

- REFERENCE: SMACNA HVAC DUCT CONSTRUCTION 1. STANDARDS, METAL AND FLEXIBLE, CURRENT EDITION.
- 2. CLEARANCE: COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.
- ROUND ELBOWS AND OFFSETS: FULL RADIUS (R/D = 1.5), 5-PIECE SEGMENTED OR STAMPED. REFER TO SMACNA HVAC FIG 2-7, 3-3. DO NOT USE ANGLED OFFSET (TYPE 1). MITERED OFFSET (TYPE 2) MAY BE USED UP TO 30 DEGREE OFFSET ANGLE.
- ROUND TEES AND LATERALS: CONICAL TEE PER SMACNA HVAC FIG 3-5; DO NOT USE STRAIGHT TEE; DO NOT USE CONICAL SADDLE TAP FOR EXPOSED DUCTWORK IN FINISHED SPACES. 90-DEGREE TEE WITH OVAL TO ROUND TAP, LATERAL, AND 45-DEGREE RECTANGULAR LEAD-IN PER SMACNA HVAC FIG 3-4.
- 5. RECTANGULAR ELBOWS AND OFFSETS: FULL RADIUS WHERE SPACE PERMITS, R/W = 1.5; OTHERWISE USE SQUARE CORNER ELBOW WITH TURNING VANES.
- RECTANGULAR DIVIDED FLOW FITTINGS: USE GENERALLY, 6. EXCEPT BRANCHES TO TERMINALS; SMACNA HVAC FIG 2-5, TYPES 1, 2, 4A, AND 4B. DO NOT USE TYPE 3.
- TURNING VANES: H.E.P. MANUFACTURER OR APPROVED 7. HIGH EFFICIENCY PROFILE AIRFOIL TYPE FOR RECTANGULAR SQUARE THROAT ELBOWS. ACOUSTICAL TYPE FOR RETURN AIR MITERED ELBOWS.
- 8. TAKEOFFS TO OPENINGS: CONICAL TYPE WITH VOLUME DAMPER FOR ROUND DUCT BRANCHES PER SMACNA HVAC FIG 2-6, MINIMUM INLET DIAMETER 2 INCHES LARGER THAN DUCT SIZE. 45 DEGREE ENTRY FITTING FOR RECTANGULAR DUCT BRANCHES PER SMACNA HVAC FIG 2-6.
- FLEXIBLE CONNECTIONS: PROVIDE AT EACH DUCT 9. CONNECTION TO FANS, PACKAGED HVAC EQUIPMENT, EXTERNALLY ISOLATED AIR HANDLING UNITS, FAN COIL UNITS, AND SIMILAR EQUIPMENT. EXCEPTION: EQUIPMENT IN CORRIDOR CEILING SPACES WHERE FIRE RATING IS REQUIRED.
- 10. ALL DUCT WORK SHALL BE CLASSIFIED FOR LOW PRESSURE SYSTEMS PER IMC SECTION 603.

11. ALL DUCTS AND JOINTS SHALL BE SEALED PER IMC SECTION 603.

<u>HVAC NOTES</u>

1. ATTACHMENTS: AIR DISTRIBUTION OUTLETS AND LOUVERS

SHALL HAVE ALL REQUIRED ACCESSORIES AND ATTACHMENTS FOR A COMPLETE CONNECTION TO THE SPECIFIC TYPE OF STRUCTURE THAT THEY ARE BEING ATTACHED TO. THIS INCLUDES, BUT IS NOT LIMITED TO, EXTERIOR BRICKS, GWB WALLS, GWB CEILING, ETC.

- DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0". UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
- SEISMIC: PROVIDE SEISMIC RESTRAINTS FOR MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK PER SMACNA AND LOCAL REGULATIONS.
- FILTER CLEARANCE: PROVIDE ADEQUATE CLEARANCE FOR CHANGING AIR FILTERS.
- DUCTWORK AND PIPING OUTSIDE OF MECHANICAL ROOMS SHALL BE CONCEALED, COORDINATE WITH THE GENERAL CONTRACTOR TO FUR-OUT AS REQUIRED.
- FIRE RATINGS: RATED FLOOR/CEILING JOINT SPACES HAVING DUCTWORK INSIDE THEM SHALL BE FIRE/SMOKE PROTECTED TO MAINTAIN THE 1-HOUR FLOOR/CEILING RATING PER LOCAL JURISDICTIONS. EXHAUST DUCTWORK PENETRATING THE 1-HOUR ROOF/CEILING OR FLOOR/CEILING ASSEMBLY SHALL HAVE ACCESSIBLE CEILING FIRE DAMPERS. ALTERNATIVELY, THE EXHAUST DUCTWORK SHALL BE ROUTED INSIDE A RATED SHAFT TO PROTECT THE CEILING/ROOF RATING PER THE LOCAL JURISDICTIONS.
- 7. FIRESTOP: PIPE, DUCT AND CONDUIT PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRE AND SMOKE STOPPED PER CODE.
- DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0" UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
- VOLUME DAMPERS: PROVIDE AN ACCESSIBLE MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, OSA AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING. VOLUME DAMPERS IN NON-ACCESSIBLE CEILING SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION. PROVIDE "YOUNG" REGULATOR OR EQUAL. EXACT LOCATION OF CONTROL DEVICES VISIBLE IN FINISHED SPACES SHALL BE COORDINATED WITH THE ARCHITECT.
- 10. CORRIDOR THERMOSTAT: PROVIDE TAMPERPROOF THERMOSTATS IN CORRIDORS. DO NOT PROVIDE PLASTIC GUARDS TO MAKE THE THERMOSTATS TAMPERPROOF. PROVIDE BLANK SECURABLE THERMOSTAT COVERS.

APPLICABLE CODE

BUILDING CODE:

2018 WASHINGTON STATE ENERGY CODE-RESIDENTIAL BY WASHINGTON ADMINSTRATIVE CODE CHAP 51-50 (WSEC)

2018 INTERNATIONAL RESIDENTIAL CODE WITH ADMINISTRATIVE CODE CHAP 51-51 (WSRC)

2018 INTERNATIONAL MECHANICAL CODE WITH ADMINISTRATIVE CODE CHAP 51-52 (WSMC)

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

PRE-CON MEETING NOTES

CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION ISSUES. REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS.AND ON-SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE ISSUED THROUG OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED. BUT NO CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS. THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED: 4 HOURS

4 HOURS

4 HOURS

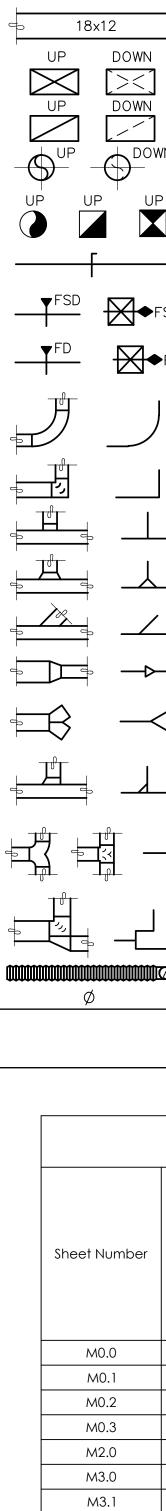
2 HOURS

ALL SESSIONS

MECHANICAL SHEET METAL
PLUMBING/PIPING
ELECTRICÁL
SPRINKLER
GENERAL CONTRACTOR

ANNOTATIONS

ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AHJ	
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BHP	
BTUH	
C CAP	COMMON CAPACITY
CC CD	CEILING DIFFUSER
CFM	
CLG	
CO	CLEANOUT
COMB	COMBUSTION
CONT	CONTINUE, CONTROL
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CWS	CHILLED WATER SUPPLY CHILLED WATER RETURN
CWR D	DIAMETER
DB	DRY BULB, DECIBEL
DEG	
DIM	DIMENSION
DISCH	DISCHARGE
DN	DOWN
EA	EXHAUST AIR
	ENTERING AIR TEMPERATURE
EF	ENERGY EFFICIENCY RATIO EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE, ENGINE
	GENERATOR
ELEC	ELECTRIC
EQUIV	EQUIVALENT
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
EXT F	EXTERIOR, EXTERNAL FAHRENHEIT
FD	FIRE DAMPER
	FAN COIL UNIT
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE/SMOKE DAMPER
G	GAS
GRD	, , ,
	DIFFUSERS
GWB	
HP	HORIZONTAL HORSEPOWER, HEAT PUMP
HRU	
	HEATING, VENTILATING, AND AIR
	CONDITIÓNING
	HEATING AND VENTILATION UNIT
HWR	
11110	RETURN
HWS	HIGH WALL SUPPLY, HOT WATER
нγ	SUPPLY HEAT EXCHANGER
	INDIRECT DRAIN, INSIDE DIAMETER
IN	INCH
	KILOWATT
L	LONG, LENGTH
LB	
	LOW WALL RETURN
	LOW WALL SUPPLY
	THOUSAND BTU PER HOUR MECHANICAL
	MINIMUM CIRCUIT AMPACITY
	MAXIMUM OVER CURRENT
	PROTECTION
MTD	MOUNTED
OSA	OUTDOOR AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION OR DIAMETER
OPNG P	OPENING PUMP
P PD	PRESSURE DROP
POC	
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
REF	REFERENCE
RF	RELIEF FAN
RG RPM	RETURN GRILLE REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCH	SCHEDULE
SF	SUPPLY FAN, SQUARE FOOT
SENS	SENSIBLE
SG	SUPPLY GRILLE
SMACNA	
	CONDITIONING CONTRACTORS
	NATIONAL ASSOCIATION
SO	SCREENED OPENING
SP	STATIC PRESSURE
SS	STAINLESS STEEL, SANITARY
	SEWER
SQ	SQUARE
TG	TRANSFER GRILLE
ТҮР UH	TYPICAL UNIT HEATER
UH UON	UNIT HEATER UNLESS OTHERWISE NOTED
V	VENT
VENT	VENTILATION, VENTILATOR
VTR	VENT THRU ROOF
W WB	WASTE, WATT, WIDE WET BULB (TEMPERATURE)

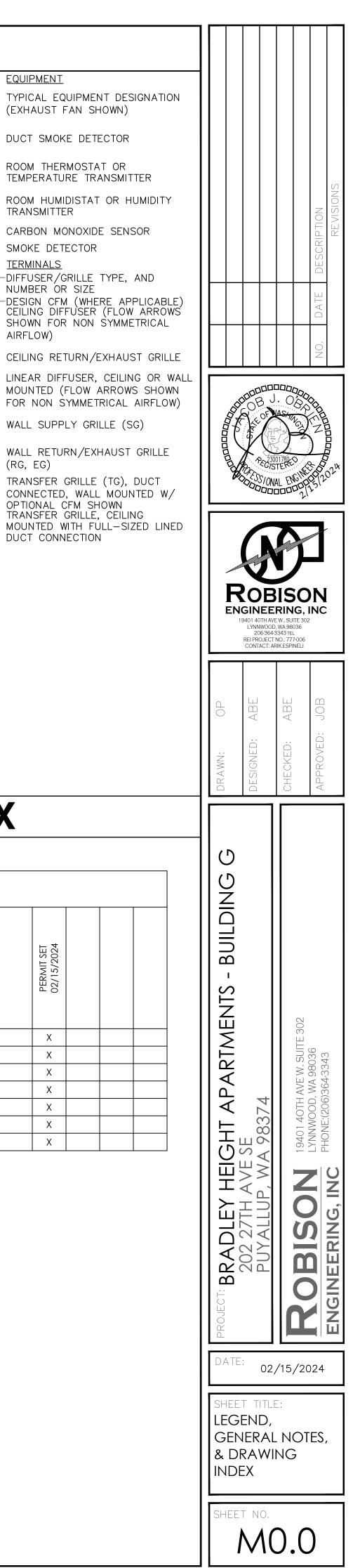


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	JIVIE	50L3	
	DUCTWORK		EQUIPMENT
l J	DUCT (1ST FIGURE = SIDE SHOWN, 2ND FIGURE = SIDE NOT SHOWN)		TYPICAL EQUIPMENT DESIGNATION (EXHAUST FAN SHOWN)
	DUCT SECTION, POSITIVE PRESSURE		DUCT SMOKE DETECTOR
	DUCT SECTION, NEGATIVE PRESSURE	T	ROOM THERMOSTAT OR TEMPERATURE TRANSMITTER
VN	ROUND DUCT SECTION	Θ	ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER
	DUCT PENETRATION THRU FLOOR OR ROOF	© ©	CARBON MONOXIDE SENSOR SMOKE DETECTOR
	VOLUME DAMPER	<u>CD-12x12</u> OP <u>CD-1</u>	<u>TERMINALS</u> -DIFFUSER/GRILLE TYPE, AND
FD	FIRE/SMOKE DAMPER $(4 =$ HORIZ DUCT, $ =$ VERT DUCT), 2-HR RATED, UON FIRE DAMPER $(4 =$ HORIZ DUCT, $ =$ VERT DUCT), 2-HR	$\frac{CD-12x12}{400} OR \frac{CD-1}{400} \checkmark$	NUMBER OR SIZE -DESIGN CFM (WHERE APPLICABLE) CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
, D	RATED, UON $= \sqrt{2}$	<	CEILING RETURN/EXHAUST GRILLE
	90° ELBOW, R/D OR R/W=1.5		LINEAR DIFFUSER, CEILING OR WALI MOUNTED (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
	SQUARE CORNER ELBOW WITH TURNING VANES	\rightarrow	WALL SUPPLY GRILLE (SG)
	90° TAKE-OFF OR TEE		WALL RETURN/EXHAUST GRILLE (RG, EG)
	90° CONICAL TAKE-OFF	$-\sqrt{2}$	TRANSFER GRILLE (TG), DUCT CONNECTED, WALL MOUNTED W/ OPTIONAL CFM SHOWN
	45° LATERAL TAKE-OFF	$- \sqrt{2} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{$	TRANSFER GRILLE, CEILING MOUNTED WITH FULL-SIZED LINED
	TRANSITION OR REDUCER (FOT = FLAT ON TOP, FOB = FLAT ON BOTTOM)	<u> </u>	DUCT CONNECTION
<	WYE FITTING		
	90° RECTANGULAR TAKE-OFF WITH 45° TAPER		
-	90° DIVERGING RECTANGULAR TEE, EITHER RADIUS OR TURNING VANES		
	PARALLEL FLOW BRANCH CONNECTION, EITHER RADIUS OR TURNING VANES		
Ø	FLEXIBLE DUCT ROUND DUCT INDICATOR		
_	DRAWIN	G INDE	X

UKAWING INDEX

r Sheet Title	PERMIT SET 02/15/2024	
LEGEND, GENERAL NOTES, & DRAWING INDEX	X	
PROJECT NOTES	X	
TABLES & CALCULATIONS	X	
MECHANICAL SCHEDULES & WSEC FORMS	Х	
HVAC PLAN - FLOOR PLANS	X	
HVAC ENLARGED PLANS	Х	
HVAC ENLARGED PLANS	Х	



ENERGY CODE NOTES

WASHINGTON STATE ENERGY CODE

1. HVAC THERMOSTATS SHALL BE SET TO MAINTAIN A MINIMUM DEADBAND OF 5°F IN AREAS SERVED AS REQUIRED PER WSEC C403.2.4.2.

2. PER WSEC, ALL DUCTS SHALL BE INSULATED AS FOLLOWS:

	, ALL DUCIS SHA	LL BE INSULATED AS FULLOWS:		
		DUCT INSULATION SCHEDULE		
CODE	DUCT SYSTEM	DUCT LOCATION AND USE (1)(2)(3)	MATERIAL	R-VALUE (MIN. INSTALLED)
		>= 2800 CFM INSIDE CONDITION SPACE AND UPSTREAM OF AUTOMATIC SHUTOFF DAMPER	MINERAL-WOOL BLANKET	16.0
WSEC TABLE C403.10.1.1	OUTSIDE AIR (4)	>= 2800 CFM INSIDE CONDITION SPACE AND DOWNSTREAM OF AUTOMATIC SHUTOFF DAMPER TO HVAC UNIT UNIT OR ROOM	MINERAL-WOOL BLANKET	8.0
		< 2800 CFM INSIDE CONDITION SPACE	MINERAL-WOOL BLANKET	7.0
		OUTSIDE THE BUILDING (OUTDOOR AND EXPOSED TO WEATHER) WHICH INCLUDE ATTICS ABOVE INSULATION CEILINGS, PARKING GARAGE AND CRAWL SPACE	MINERAL—WOOL BLANKET	8.0
	SUPPLY AIR & RETURN AIR (4)	UNCONDITIONED SPACE (ENCLOSED BUT NOT IN THE BUILDING CONDITIONED ENVELOPE)	MINERAL-WOOL BLANKET	6.0
		UNCONDITIONED SPACE WHERE THE DUCT CONVEYS AIR THAT IS WITHIN 15°F OF THE AIR TEMPERATURE OF THE SURROUNDING UNCONDITIONED SPACE (5)	MINERAL-WOOL BLANKET	3.3
		WHERE LOCATED IN THE BUILDING ENVELOPE ASSEMBLY	MINERAL-WOOL BLANKET	16.0
WSEC TABLE C403.10.1.2	SUPPLY AIR (4)	WITHIN CONDITIONED SPACE WHERE SUPPLY DUCT CONVEYS AIR <55°F OR >105°F	MINERAL-WOOL BLANKET	3.3
		WITHIN CONDITIONED SPACE THAT THE DUCT DIRECTLY SERVES WHERE SUPPLY DUCT CONVEYS AIR <55°F OR >105°F	MINERAL-WOOL BLANKET	0.0
		WITHIN CONDITIONED SPACE WHERE SUPPLY DUCT CONVEYS AIR >55°F OR <105°F	MINERAL-WOOL BLANKET	0.0
	RETURN OR EXHAUST AIR	WITHIN CONDITION SPACE, DOWNSTREAM OF AN ENERGY RECOVERY MEDIA, UPSTREAM OF AUTOMATIC SHUTOFF DAMPER	MINERAL-WOOL BLANKET	8.0
	RELIEF OR EXHAUST AIR	CONDITION SPACE AND DOWNSTREAM OF AN AUTOMATIC SHUTOFF DAMPER	MINERAL-WOOL BLANKET	16
		NOTES (1) DUCT INSULATION SHALL COMPLY WITH WSEC (2) INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD INDEX OF 25 INDEX OF 50 PER WSEC 604.3 (3) EXTERAL DUCT INSULATION IS IDENTIFIABLE PER WSEC 604.7 (4) VAPOR RETARDER IS INSTALLED ON SUPPLY AND OUTSIDE AIR DUC ^T (5) CONDENSATION CONTROL FOR DUCTWORK		E DEVELOPED

MOTORIZED DAMPERS: PER WSEC C403.7.8.1 PROVIDE MOTORIZED DAMPERS ON ALL OUTSIDE AIR INTAKES, EXHAUST OUTLETS AND 3. RELIEF OUTLETS SERVING CONDITIONED SPACES WHICH CLOSE AUTOMATICALLY WHEN THE SYSTEM IS OFF. RETURN AIR DAMPERS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS. SEE WSEC C402.4.5.2 FOR EXCEPTIONS AND ADDITIONAL REQUIREMENTS.

RESIDENTIAL ENERGY CODE

1. WHOLE-HOUSE FAN EFFICACY PER TABLE R403.6.1.

- 2. EQUIPMENT AND APPLIANCE SIZING PER R403.7, HEATING AND COOLING EQUIPMENT AND APPLIANCES SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S OR OTHER APPROVED SIZING METHODOLOGIES BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES
- 3. ELECTRIC RESISTANCE ZONE PER R403.7.1, ELECTRIC ZONAL HEATING AS PRIMARY HEAT SOURCE SHALL INSTALL DUCTLESS MINI-SPLIT HEAT PUMP IN THE LARGEST ZONE IN THE DWELLING UNLESS TOTAL INSTALLED HEATING CAPACITY OF 2 KW PER DWELLING OR LESS.

4. PROVIDED ONE THERMOSTAT FOR EACH HEATING AND COOLING SYSTEM PER R403.1 5. PER R403.3.6, SUPPLY AND RETURN DUCTS IN CEILING INSULATION SHALL HAVE MIN R-8 INSULATION ALL AROUND. THE SUM OF THE

CEILING INSULATION OF THE TOP AND BELOW OF THE DUCT SHALL BE MIN R-19, EXCLUDING THE R-VALUE OF THE DUCT INSULATION

MECHANICAL SYSTEM PIPING CARRYING FLUIDS ABOVE 105F OR BELOW 55F SHALL BE INSULATED WITH MIN R-6 PER R403.4. 6. INSULATION SHALL BE PROTECTED FROM DAMAGE AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION. ADHESIVE TAPE SHALL NOT BE PERMITTED.

WHOLE HOUSE VENTILATION NOTES

EACH DWELLING UNIT OR SLEEPING UNIT SHALL BE EQUIPPED WITH A WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM THAT COMPLIES WITH SECTIONS 403.4.1 THROUGH 403.4.6. EACH DWELLING UNIT OR SLEEPING UNIT SHALL BE EQUIPPED WITH LOCAL EXHAUST COMPLYING WITH SECTION 403.4.7. ALL OCCUPIED SPACES, INCLUDING PUBLIC CORRIDORS, OTHER THAN GROUP R DWELLING UNITS AND/OR SLEEPING UNITS, THAT SUPPORT THESE GROUP R OCCUPANCIES, SHALL MEET THE VENTILATION REQUIREMENTS OF SECTION 402 OR THE MECHANICAL VENTILATION REQUIREMENTS OF SECTIONS 403.1 THROUGH 403.3.

THE WHOLE HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS; AND THE ASSOCIATED DUCTS AND CONTROLS. LOCAL EXHAUST FANS SHALL BE PERMITTED TO SERVE AS PART OF THE WHOLE-HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS IN ACCORDANCE WITH SECTION 403.4.5. THE SYSTEMS SHALL BE DESIGNED AND INSTALLED TO SUPPLY AND EXHAUST THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION 403.4.2 AS CORRECTED BY THE BALANCED AND/OR DISTRIBUTED WHOLE-HOUSE VENTILATION SYSTEM COEFFICIENTS IN ACCORDANCE WITH SECTION 403.4.3 WHERE APPLICABLE.

THE DWELLING UNIT WHOLE-HOUSE MECHANICAL VENTILATION MINIMUM OUTDOOR AIRFLOW RATE SHALL BE DETERMINED IN ACCORDANCE WITH EQUATION 4-10 OR TABLE 403.4.2.

RESIDENTIAL DWELLING AND SLEEPING UNITS IN GROUP R-2 OCCUPANCIES SYSTEM SHALL INCLUDE SUPPLY AND EXHAUST FANS AND BE A BALANCED WHOLE-HOUSE VENTILATION SYSTEM IN ACCORDANCE WITH SECTION 403.4.6.3. THE SYSTEM SHALL INCLUDE A HEAT OR ENERGY RECOVERY VENTILATOR WITH A SENSIBLE HEAT RECOVERY EFFECTIVENESS AS PRESCRIBED IN SECTION C403.3.6 OF THE WASHINGTON STATE ENERGY CODE. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED IN ACCORDANCE WITH SECTION 403.4. THE WHOLE-HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.

CONTROLS FOR THE WHOLE-HOUSE VENTILATION SYSTEM SHALL COMPLY WITH THE FOLLOWING:

- OCCUPANT. 2. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL
- INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING; "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL HAVE READY ACCESS FOR THE OCCUPANT. 3. WHOLE-HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS ARE PROVIDED IN ACCORDANCE WITH SECTION 403.4.6.5 AND ALLOWED BY SECTION 403.4.4.2.

WHOLE HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WASHINGTON STATE ENERGY CODE. THE FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE AT DESIGN AIRFLOW AND STATIC PRESSURE CONDITIONS. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS

A BALANCED WHOLE HOUSE VENTILATION SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10 PERCENT OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10 PERCENT OR 5 CFM, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION 403.4.6.6. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION 403.4.6.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION 403.4.6.3. FOR R-2 DWELLING AND SLEEPING UNITS, THE SYSTEM IS REQUIRED TO HAVE BALANCED WHOLE-HOUSE VENTILATION BUT IS NOT REQUIRED TO HAVE DISTRIBUTED WHOLE-HOUSE VENTILATION WHERE THE NOT DISTRIBUTED SYSTEM COEFFICIENT FROM TABLE 403.4.3 IS UTILIZED TO CORRECT THE WHOLE-HOUSE MECHANICAL VENTILATION RATE. THE SYSTEM SHALL BE DESIGNED AND BALANCED TO MEET THE PRESSURE EQUALIZATION REQUIREMENTS OF SECTION 501.4. INTERMITTENT DRYER EXHAUST, INTERMITTENT RANGE HOOD EXHAUST, AND INTERMITTENT TOILET ROOM EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.

FACTORY-BUILT INTAKE/EXHAUST COMBINATION TERMINATIONS

PER 2018 IMC 401.4.3, ITEM 3, EXCEPTION, SEPARATION IS NOT REQUIRED BETWEEN INTAKE AIR OPENINGS AND LIVING SPACE RELIEF AIR EXHAUST AIR OPENINGS OF AN INDIVIDUAL DWELLING UNIT OR SLEEPING UNIT, NOT TO INCLUDE COMMON AREAS OUTSIDE OF THE DWELLING OR SLEEPING UNIT, WHERE A FACTORY-BUILT INTAKE/EXHAUST COMBINATION TERMINATION FITTING, LISTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, IS USED TO SEPARATE THE AIR STREAMS. A MINIMUM OF 5 FEET HORIZONTAL SEPARATION BETWEEN OTHER ENVIRONMENTAL AIR EXHAUST OUTLETS AND OTHER DWELLING OR SLEEPING UNIT FACTORY-BUILT INTAKE/EXHAUST COMBINATION TERMINATION FITTINGS SHALL BE MAINTAINED.

CALCULATIONS

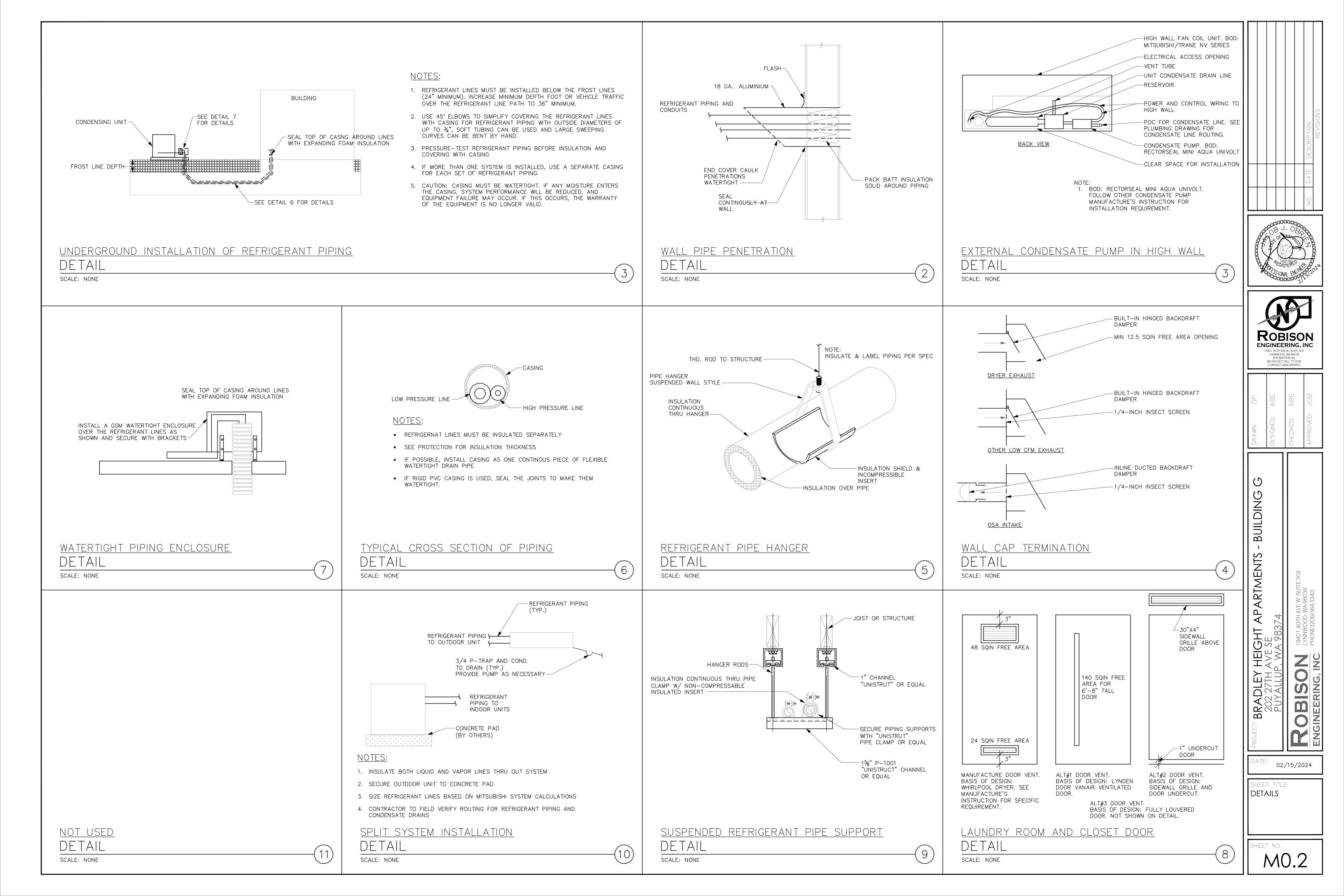
RESIDENTIAL VENTILATION CALCULATIONS											
	UNIT SQUARE FOOTAGE		2018 IN	MC CRITERIA (1)		VENTILATION QUALITY	MINIMUM WHOLE HOUSE VENTILATION RATE, CFM	TOTAL CFM PROVIDED BY WHOLE HOUSE FAN SYSTEM			
UNIT TYPE		NUMBER OF BEDROOMS	FLOOR AREA, SQFT	NUMBER OF BEDROOMS	REQUIRED CFM (2)	ADJUSTMENT COEFFICIENT (3)					
1 BEDROOM	660	1	500 - 1,000	1	30	1.5	45	55			
2 BEDROOM	1000	2	500 - 1,000	2	35	1.5	53	55			
NOTE:	(1) VENTILATION CRITERIA IS PER THE	2018 WA RESIDENTIAL COD	E SECTION M1505.4.3								

(2) MINIMUM OSA FOR CONTINUOUSLY OPERATING FAN(S).

(3) ADJUSTMENT COEFFICIENT IS PER 2018 WRC, TABLE M1505.4.3(2) FOR A NOT BALANCED, AND NOT DISTRIBUTED WHOLE HOUSE VENTILATION SYSTEM.

1. THE WHOLE-HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT HAVE READY ACCESS FOR THE

			NO. DATE DESCRIPTION REVISIONS	
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DRAWN: OP	DESIGNED: ABE	CHECKED: ABE	APPROVED: JOE	
PROJECT: BRADLEY HEIGHT APARTMENTS - BUILDING G	PUYALLUP, WA 98374	NOSIACA	ENGINE	
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WSEC FORMS

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General Project Ty	pes		New Bui	ilding	or A	Addition		Single Zone Syst	tems & Eq	uipment	Alte Mee
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	Scope and Me	ethod	New Building		g	Single Zone Systems & Equipment					Ŋ
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Does building inclu DOAS?	ide occupancy c	lassifications	requiring	requiring No				Does project	Does project include DOAS equipn		
Based on project s	cope do TSPR re	equirements	apply?	No				Do all systems comply with Appendi TSPR?			
Scope & Space	Conditioning		NEW BUI	LDING -	- SI	NGLE ZONE S	YSTEN	MS & EQUIPM	IENT		
Single Zone Air Sy	stems Category	- Unit heater	rs & duct heat	ters							
Air Systems Summ	ary Information	n									
System/Eq	uip ID	Qu	antity of Item	s		Ventilatio	on Stand	ard	ſ	Ventila Fotal if M	
	EWH-1		72		-	IMC V	entilation	n	(unp
	EWH-2		12			IMC V	entilation	n			
Air Systems & Equ	ipment - Heatin	ıg									
System /Equip ID	Heating	System/Equ	ір Туре		Spe	cific Type	Не	eating Capacity	HC Unit		F
EWH-1 Unit heater					ric resistance		1	Btu/			
EWH-2		Unit heater		E	lectr	ric resistance		2	Btu/	n	
Air Systems & Equ											
System/Ec	uip ID EWH-1			rea(s) Serve]	Locat
	APARTMENT UNITS							•.			
				r a single or multiple items?: Multiple items w/ identical heating & cooling capacity							
		System/Equ	<u> </u>				ns w/ idei	ntical nearing & co	oling capa		
	EWH-2		APAR	RTMENT U	NIT						

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MECHANICAL SCHEDULES

FI FCTRIC HEATERS

	SERVICE	MOUNTING/ DISCHARGE	HEATING	ELECTRICAL	BASIS OF DESIGN (3)					
EQUIP NO.		MOUNTING/ DISCHARGE	KW	VOLTAGE						
EWH-1	APARTMENT UNIT	WALL	1.0	208V/1P	(1)(2)					
EWH-2 APARTMENT UNIT		WALL	1.5	208V/1P	(1)(2)					
NOTES: (1) BROAN, KING, CADET OR EQUIVALENT.										

(2) PROVIDE REMOTE THERMOSTAT. COORDINATE FINAL LOCATION WITH ELECTRICAL DRAWINGS. (3) ALL ELECTRIC HEATERS TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

	FAN SCHEDULE											
EQUIP NO.	SERVICE	ТҮРЕ	AIRFLOW,	ESP. IN WG	ELECT	RICAL	- OPERATION	WEIGHT, LBS	BASIS OF DESIGN			
	JERVICE		CFM		VOLTAGE	HP		WLIGHT, LDS	(1)(2)(3)			
BEF-1	RESTROOM	CEILING MOUNTED	55/80	0.5	115V/1P	FHP	CONTINUOUS	10	GREENHECK SP-AP0511W (4)			
BEF-2	RESTROOM	CEILING MOUNTED	50	0.5	115V/1P	FHP	(2)	10	GREENHECK SP-AP0511W			
NOTES:	(2) 1.0 SONE (3) VIBRATIC	E BACKDRAFT DAMPERS ON EXHA ES MAXIMUM. DN ISOLATION: FANS < 125 LBS RU LL BE 2-SPEED: 35 CFM CONTINU(BBER ISOLATOR:				EGRAL OCCUPAN	NCY SENSOR ON	GRILLE.			

SPLIT SYSTEM HEAT PUMP SCHEDULE - INDOOR UNIT

		MOUNTING/	FAN		ELECTRICAL			BASIS OF DESIGN	CONNECTED OUTDOOR	
EQUIP NO.	SERVICE	DISCHARGE	AIRFLOW, CFM	FLOW, CFM ESP. IN WG VOLTAGE MCA MOCP (1)(2)(4)		UNIT				
FCU-1-X	RES. UNIT	HIGH WALL	473	N/A	(3)	(3)	(3)	DAIKIN FTXB12BXVJU	HP-1-X	
FCU-2-X	RES. UNIT	HIGH WALL	716	N/A	(3)	(3)	(3)	DAIKIN FTXB18BXVJU	HP-2-X	
NOTES:	(1) INSTALL IN ACCORDANCE WITH MAN	UFACTURER'S INSTALLATI	ON REQUIREMEN	ITS.		•				
	(2) PROVIDE MANUFACTURER'S OPTIONAL CONDENSATE PUMP WITH RESERVOIR AND SENSOR.									

(3) INDOOR UNIT POWERED FROM OUTDOOR UNIT.

(4) "X" DENOTES THE UNIT BEING SERVED.

SPLIT SYSTEM HEAT PUMP SCHEDULE - OUTDOOR UNIT

EQUIP NO.	SERVICE	CAPACITY,	TOTAL COOLING CAPACITY, BTUH	SEER2	TOTAL HEATING CAPACITY, BTUH	HSPF2	ELE	CTRICAL		WEIGHT,	BASIS OF DESIGN	CONNECTED FAN
		tons	CAFACIIT, DIUN		CAFACIIT, DIUN		VOLTAGE	MCA	MOCP	LBS	(1)(2)(3)(4)(5)(6)	COIL UNIT
HP-1-X	RES. UNIT	1.0	11,000	18.0	11,300	9.0	208V/1P	12.40	15	62	DAIKIN RXB12BXVJU	FCU-1
HP-2-X	RES. UNIT	1.5	18,000	18.0	17,900	8.5	208V/1P	16.55	20	97	DAIKIN RXB18BXVJU	FCU-1
NOTES:	(1) INSTALL IN ACCORDANCE WITH	MANUFACTUR	ER'S INSTALLATION RE	QUIREMEN	TS.	•		•				

(2) ARI LISTED WITH ALL STANDARD FEATURES, INSTALLATION ACCESSORIES AND COMPRESSOR SHORT CYCLING PROTECTION. FILTER DRIVER, REFRIGERANT LINE FILTER, LIQUID SOLENOID VALVE, AND SAFETY PRESSURE SWITCHES. INSTALL REFRIGERANT TUBING AND LENGTH IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(3) PROVIDE ALL REQUIRED ACCESSORIES FOR LOW-AMBIENT.

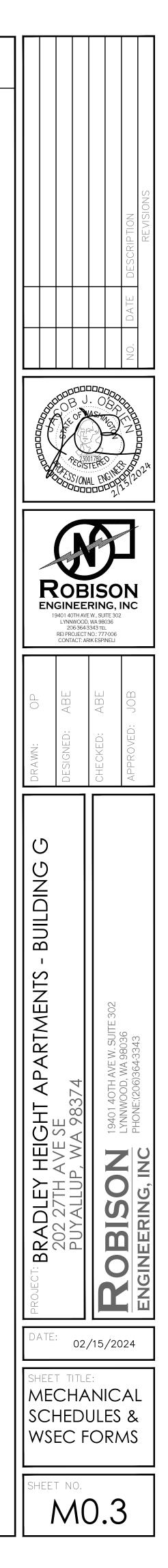
(4) ROUTING OF REFRIGERANT LINES FROM INDOOR TO OUTDOOR UNITS NOT SHOWN ON PLANS. CONTRACTOR TO FIELD COORDINATE ROUTING. (5) REFRIGERANT SHALL BE R-410A.

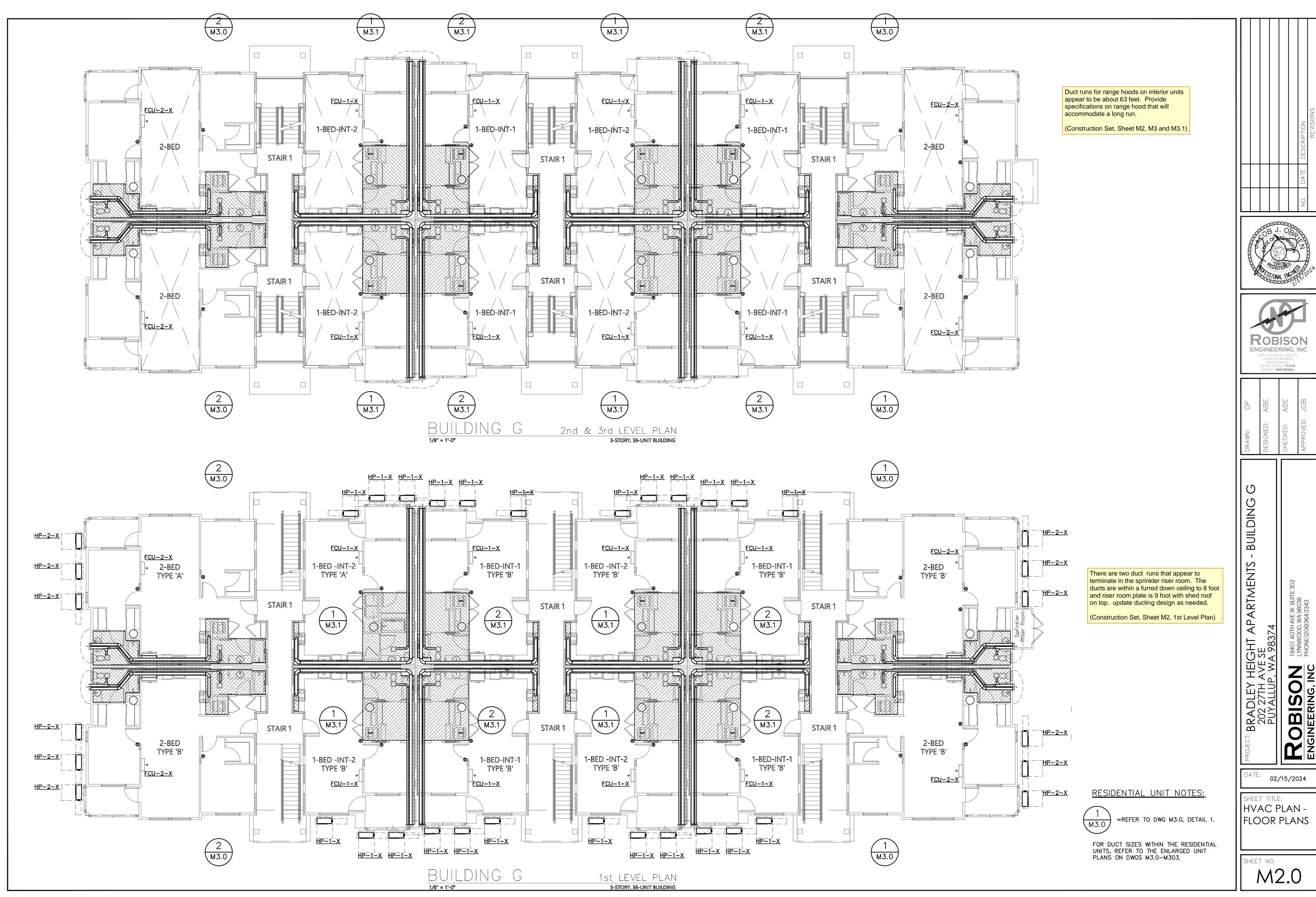
(6) "X" DENOTES THE UNIT BEING SERVED.

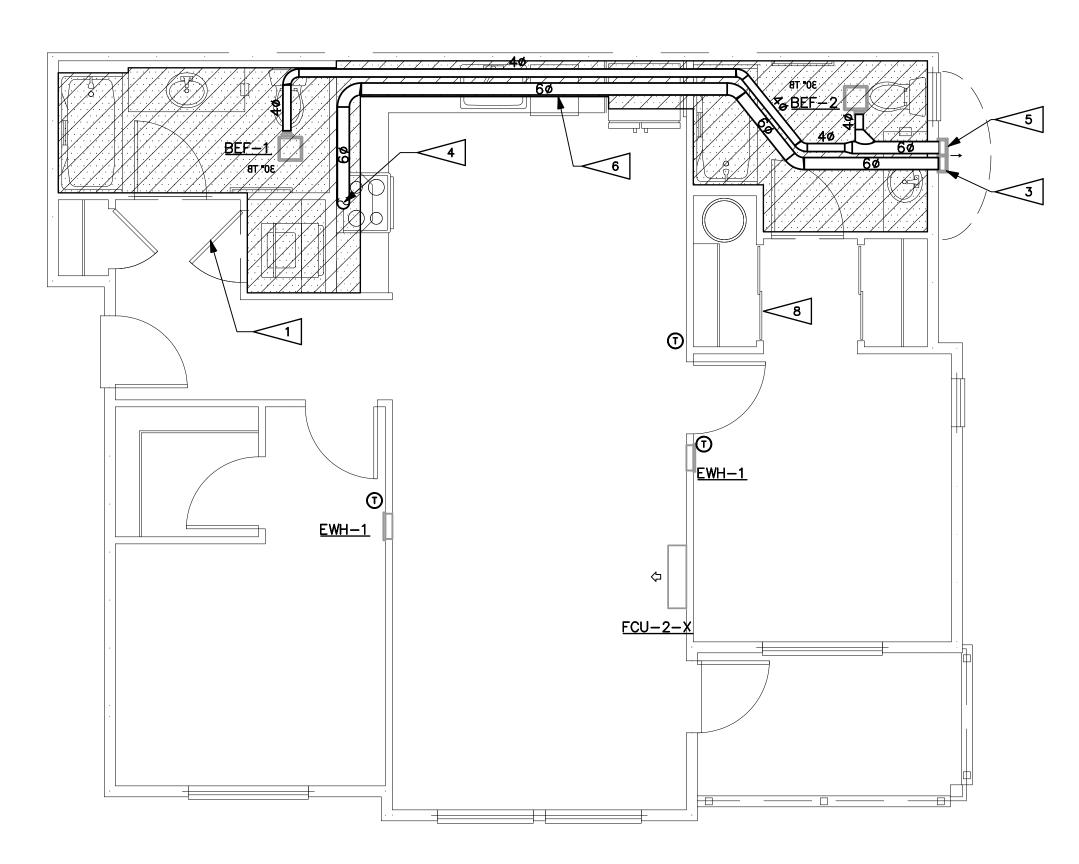
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FAN SHALL BE 2-SPEED: 35 CFM CONTINUOUS LOW SETTING AND 80 CFM HIGH SPEED ACTIVATED BY INTEGRAL OCCUPANCY SENSOR ON GRILLE.





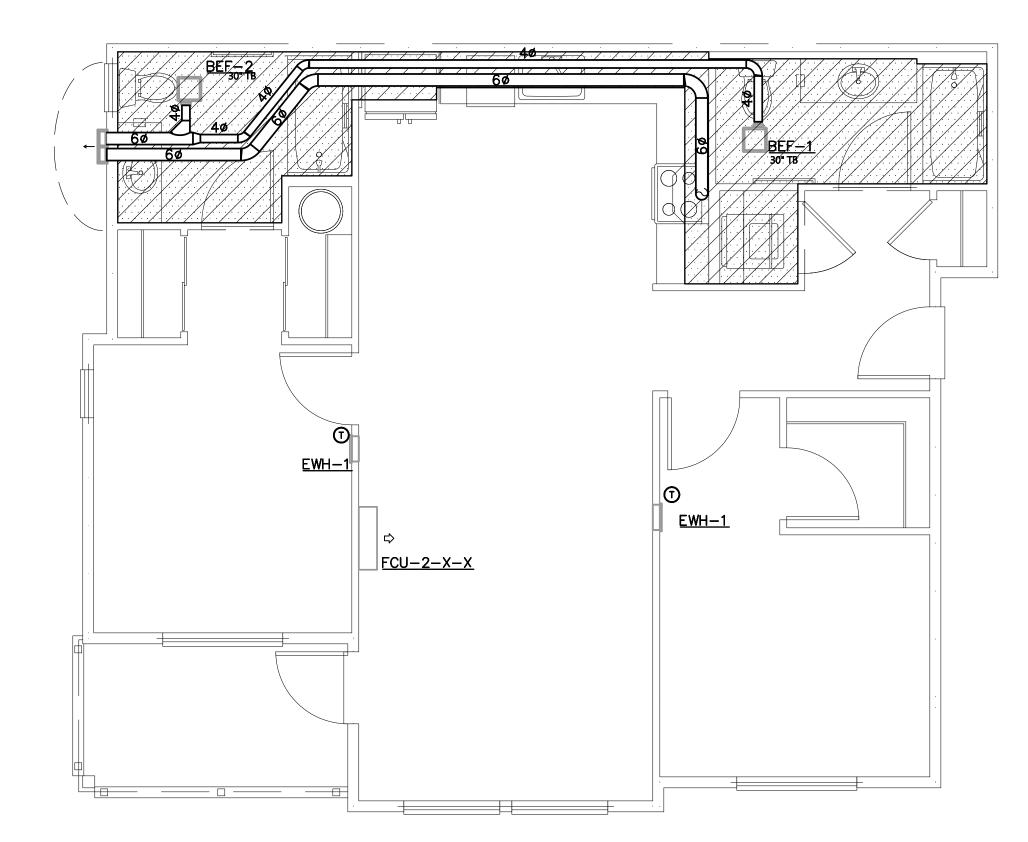


HVAC ENLARGED PLANS



GENERAL NOTES:

- 1. ENVIRONMENTAL EXHAUST TERMINATIONS: MAINTAIN 3 FOOT SEPARATION FROM PROPERTY LINES AND OPERABLE OPENINGS INTO BUILDING, 10 FEET FROM MECHANICAL AIR INTAKES.
- 2. MOUNT REMOTE THERMOSTATS 48" AFF. PER WSEC C403.4.9, AT LEAST ONE THERMOSTAT SHALL BE PROGRAMMABLE ON A 5-2 SCHEDULE.
- 3. UNDERCUT ALL BATHROOM DOORS BY MINIMUM 1/2" TO ALLOW TRANSFER OF MAKEUP AIR FOR BATHROOM EXHAUST.
- 4. ELECTRIC WALL HEATERS SHALL BE RECESSED IN WALL UNLESS FIRE RATED OR EXTERIOR WALL. FOR HEATERS MOUNTED ON SUCH WALL, PROVIDE SURFACE-MOUNT WALL CAN.
- 5. PROVIDE ACCESSIBLE MANUAL VOLUME DAMPERS AT BRANCHES OR OPPOSED-BLADE DAMPERS AT GRILLES FOR AIR BALANCING PER VOLUME DAMPERS NOTE ON SHEET MO.OO.

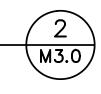


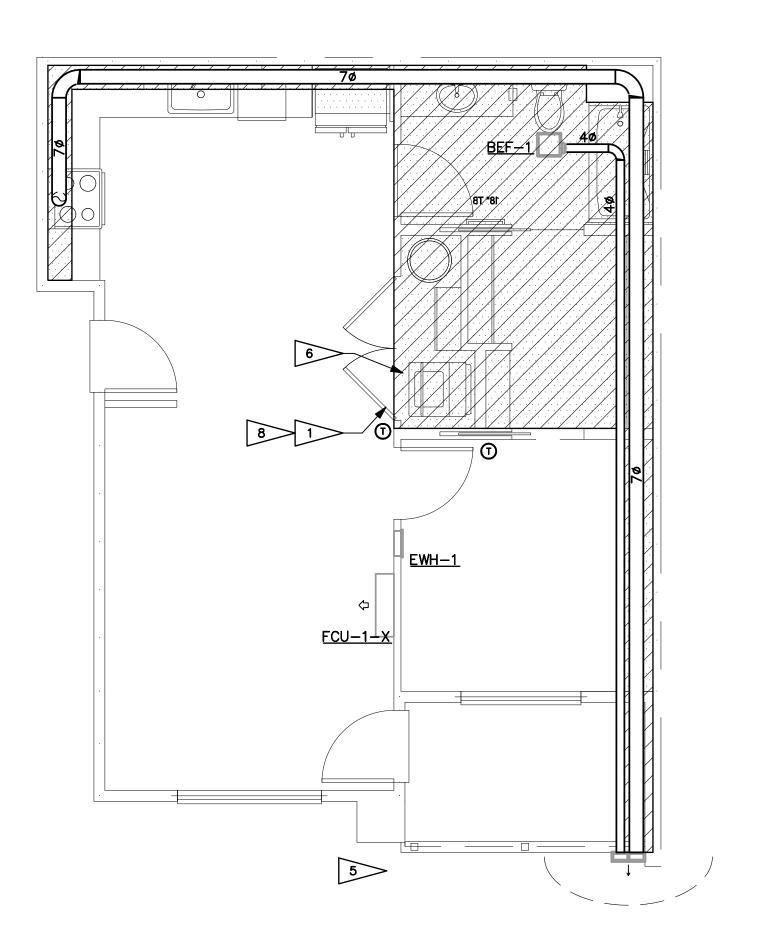
HVAC ENLARGED PLANS

2-BED-ALT SCALE: 1/4" = 1'-0"

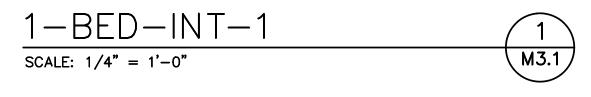
FLAG NOTES:

- 1. CLOSETS CONTAINING DRYERS SHALL BE PROVIDED WITH LOUVERED DOOR OR 100 SQ. IN FREE-AREA OPENING ABOVE DOOR. OPENING PROVIDES PATH FOR EXHAUST AIR DURING WASHER OPERATION PER WSMC TABLE 403.3.1.1 NOTE (i) AND MAKEUP AIR DURING DRYER OPERATION PER 504.6.
- 2. 40 POC TO DRYER. PROVIDE METAL DRYER BOX WHERE DUCT IS ROUTED IN 2x6 FRAMED WALL. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WSMC 7. 80 POC FOR HEAT PUMP WATER HEATER EXHAUST. 504.8.4.1 FOR THE MAXIMUM ALLOWED LENGTH OF THE DRYER VENT. PROVIDE PERMANENT PLACARD OF TYPE PLAC34 SHOWING NET EQUIVALENT LENGTH. DUCT SHALL REMAIN SEPARATE FROM OTHER EXHAUST SYSTEMS UP TO TERMINATION.
- 3. 4" DRYER EXHAUST TERMINATION WALL CAP. PROVIDE BACKDRAFT DAMPER AT TERMINATION. DO NOT INSTALL SCREENS ON DRYER EXHAUST TERMINATIONS. CLEARANCES PER GENERAL NOTE 1.
- 4. POC TO DOMESTIC KITCHEN RANGE HOOD. SEE PLANS FOR SIZE. DUCT SHALL REMAIN SEPARATE FROM OTHER EXHAUST SYSTEMS UP TO TERMINATION.
- 5. DOMESTIC KITCHEN RANGE HOOD EXHAUST TERMINATION WALL CAP WITH SCREEN. PROVIDE BACKDRAFT DAMPER AT TERMINATION. CLEARANCES PER GENERAL NOTE 1.
- 6. LOWERED SOFFIT FOR MECHANICAL EQUIPMENT.
- 8. CLOSETS CONTAINING WATER HEATERS SHALL BE PROVIDED WITH MINIMUM 3/4" UNDERCUT.



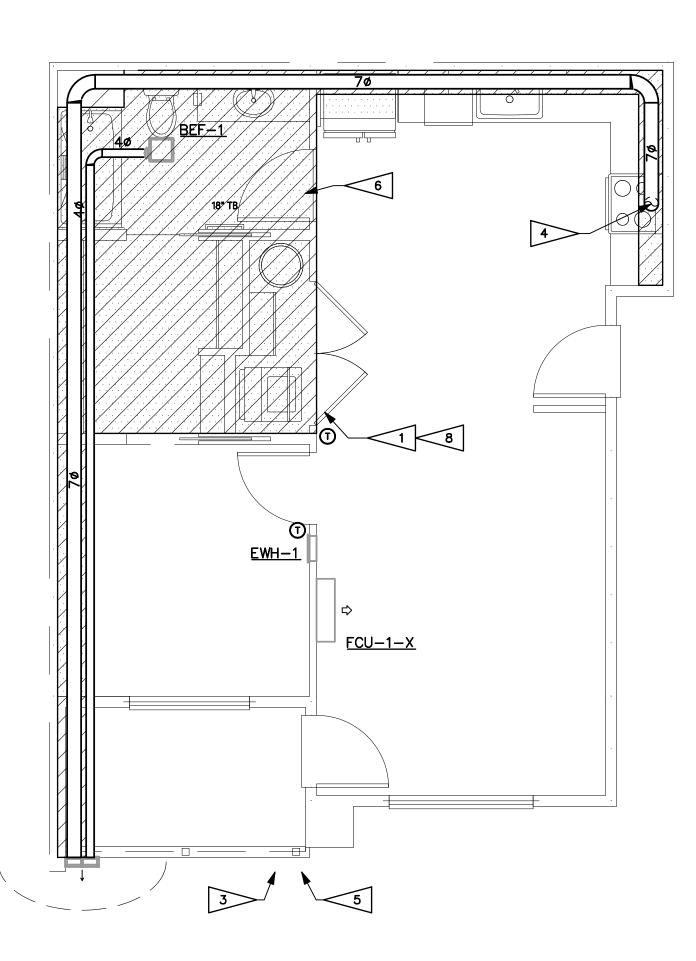


HVAC ENLARGED PLANS

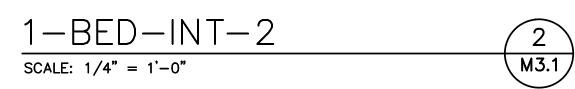


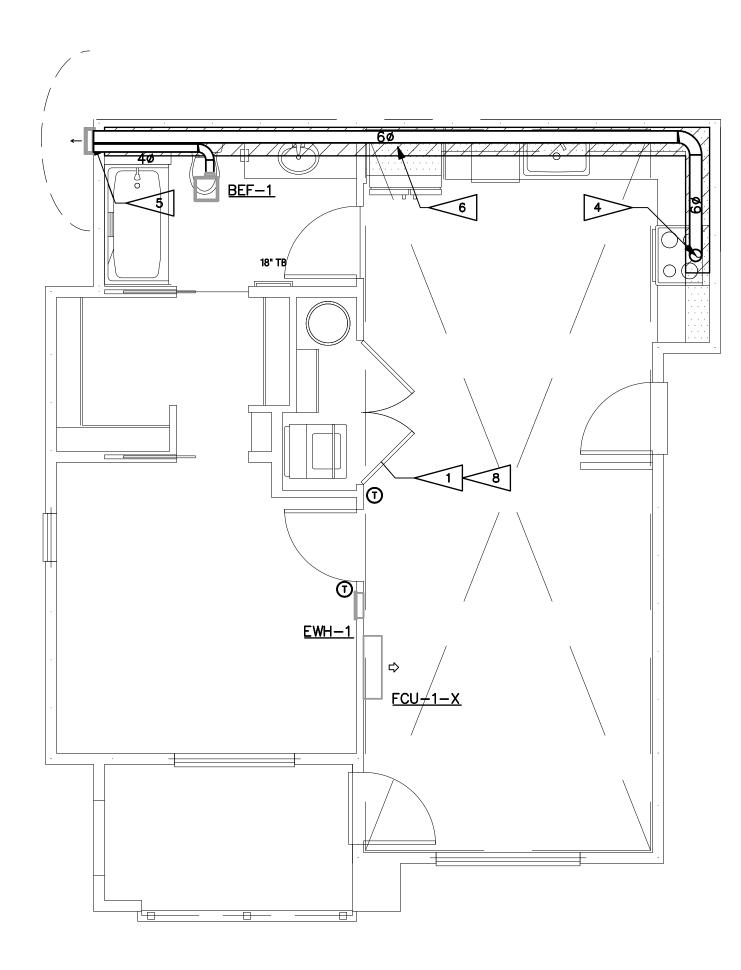
GENERAL NOTES:

- 1. ENVIRONMENTAL EXHAUST TERMINATIONS: MAINTAIN 3 FOOT SEPARATION FROM PROPERTY LINES AND OPERABLE OPENINGS INTO BUILDING, 10 FEET FROM MECHANICAL AIR INTAKES.
- 2. MOUNT REMOTE THERMOSTATS 48" AFF. PER WSEC C403.4.9, AT LEAST ONE THERMOSTAT SHALL BE PROGRAMMABLE ON A 5-2 SCHEDULE.
- 3. UNDERCUT ALL BATHROOM DOORS BY MINIMUM 1/2" TO ALLOW TRANSFER OF MAKEUP AIR FOR BATHROOM EXHAUST.
- 4. ELECTRIC WALL HEATERS SHALL BE RECESSED IN WALL UNLESS FIRE RATED OR EXTERIOR WALL. FOR HEATERS MOUNTED ON SUCH WALL, PROVIDE SURFACE-MOUNT WALL CAN.
- 5. PROVIDE ACCESSIBLE MANUAL VOLUME DAMPERS AT BRANCHES OR OPPOSED-BLADE DAMPERS AT GRILLES FOR AIR BALANCING PER VOLUME DAMPERS NOTE ON SHEET MO.OO.



HVAC ENLARGED PLANS



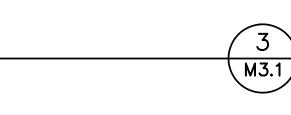


HVAC ENLARGED PLANS

1-BED-END
SCALE: $1/4" = 1'-0"$

FLAG NOTES:

- 1. CLOSETS CONTAINING DRYERS SHALL BE PROVIDED WITH LOUVERED DOOR OR 100 SQ. IN FREE-AREA OPENING ABOVE DOOR. OPENING PROVIDES PATH FOR EXHAUST AIR DURING WASHER OPERATION PER WSMC TABLE 403.3.1.1 NOTE (i) AND MAKEUP AIR DURING DRYER OPERATION PER 504.6.
- 2. 40 POC TO DRYER. PROVIDE METAL DRYER BOX WHERE DUCT IS ROUTED IN 2x6 FRAMED WALL. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WSMC 7. 80 POC FOR HEAT PUMP WATER HEATER EXHAUST. 504.8.4.1 FOR THE MAXIMUM ALLOWED LENGTH OF THE DRYER VENT. PROVIDE PERMANENT PLACARD OF TYPE PLAC34 SHOWING NET EQUIVALENT LENGTH. DUCT SHALL REMAIN SEPARATE FROM OTHER EXHAUST SYSTEMS UP TO TERMINATION.
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- 6. LOWERED SOFFIT FOR MECHANICAL EQUIPMENT.
- 8. CLOSETS CONTAINING WATER HEATERS SHALL BE PROVIDED WITH MINIMUM 3/4" UNDERCUT.



		ISC RING , wa 98036 3343 TEL NO.: 7777006)
drawn: OP	DESIGNED: ABE	CHECKED: ABE	APPROVED: JOB
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	SYMBOLS
GENERAL	LIGHT LINE INDICATES NON-ELECTRICAL OR BACKGROUND (THIS IS NOT CONTRACTUAL DEFINITION OF WORK)
DETAIL IDENTIFICAT SYMBOL	HEAVY LINE INDICATES NEW WORK (THIS IS NOT CONTRACTUAL DEFINITION OF WORK) ION NAME FLAG NOTE REVISION NOTE REVISION DEFINITION, AREA ENCIRCLED CONTAINS DRAWING CHANGES MADE SUBSEQUENT TO PREVIOUS ISSUE
SWITCHES \$₀ \$₀s ♥ ♥ ♥ \$∫\$ \$∫\$ \$∫\$ \$∫\$ \$∫\$ \$∫\$ \$∫\$ \$∫\$ \$∫\$ \$∑\$ \$∫\$ \$]	SWITCH, SINGLE POLE; WITH SWITCHING SUBSCRIPT OCCUPANCY SENSOR SWITCH SWITCH, SINGLE POLE; WITH SWITCHING SUBSCRIPT "D" INDICATES WALLBOX CEILING MOUNTED OCCUPANCY SENSOR SWITCH, TIMER. SWITCH, THREE WAY.
$ \begin{array}{c} $	SINGLE RECEPTACLE DUPLEX RECEPTACLE: WALL MOUNTED, +18" AFF CONTROLLED AND NON CONTROLLED DUPLEX RECEPTACLE (SPLIT WIRED RECE DUPLEX RECEPTACLE – ABOVE COUNTER DUPLEX GFCI ABOVE COUNTER DUPLEX GFCI DUPLEX RECEPTACLE, WITH HEIGHT ABOVE FINISHED FLOOR INDICATED CEILING MOUNTED DUPLEX RECEPTACLE DOUBLE DUPLEX RECEPTACLE
₩ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	DOUBLE DUPLEX RECEPTACLE: WALL MOUNTED, +18" AFF FLOOR BOX ONE DUPLEX RECEPTACLE FLOOR BOX ONE DUPLEX RECEPTACLE + ONE DATA FLOOR BOX ONE DUPLEX RECEPTACLE + ONE DATA + ONE VOICE SPECIAL PURPOSE RECEPTACLE, AS NOTED JUNCTION BOX: 4SQ MOUNTED
Q	JUNCTION BOX: 4SQ MOUNTED JUNCTION BOX: 4SQ WALL MOUNTED JUNCTION BOX: 4SQ TRACK CONNECTION FOR LIGHTED MIRROR COORDINATE LOCATION AND ELEVATION WITH ARCHITECT PRIOR TO ROUGH-IN
	THERMOSTAT
SIGNAL/COMMUNICAT ▼ ▼ ▼	TION DATA OUTLET: WALL MOUNTED @ +18" AFF U.O.N. TELEPHONE/DATA OUTLET: WALL MOUNTED @ +18" AFF U.O.N. TELEVISION OUTLET: WALL MOUNTED @ +18" AFF U.O.N.
POWER C U WP D	PANELBOARD NON-FUSED DISCONNECT SWITCH (WP = NEMA 3R WHERE APPROPRIATE) FUSED DISCONNECT SWITCH
今 MAU-1,5H	P,480,3 MOTOR CONNECTION (EQUIPMENT NAME, HORSEPOWER, VOLTAGE, AND PHASE INDICATED)
♥EF-1,12KV T M	A,208,1 EQUIPMENT CONNECTION (EQUIPMENT NAME, LOAD, VOLTAGE, AND PHASE INDICATED) TRANSFORMER, DRY TYPE, SHOWN TO SCALE KW METER AND BASE
FART OF THE -	✔ FIRE ALARM SYSTEM STROBE/SPEAKER✔ FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR AND SPEAKER.
DESIGN/BUILD FIRE ALARM SYSTEM	CARBON MONOXIDE DETECTOR, AND SPEAKER, GUESTROOM.

	ABBREVIATIONS		GEN
LBOX DIMMER	A AMPERE AC ALTERNATING CURRENT, ABOVE COUNTER AFF ABOVE FINISHED FLOOR AIC AMPS INTERRUPTING CAPACITY AL ALUMINUM AMP AMPS INTERRUPTING CAPACITY AL ALUMINUM AMP AMPERE AWG AMERICAN WIRE GAUGE BKR BREAKER BLDG BUILDING C COIL or CONDUIT CKT CIRCUIT CO CONDUIT/RACEWAY ONLY CT CURRENT TRANSFORMER Cu COPPER CW COOL WHITE D DED DED DEDICATED EC ELECTRICAL EMT ELECTRICAL EMT ELECTRICAL METALLIC TUBING EQUIP EQUIPMENT EXIST EXISTING FAA FIRE ALARM ANNUNCIATOR FAC FIRE ALARM ANNUNCIATOR FAC FIRE ALARM CONTROL PANEL FLUOR FLUORESCENT GC GRUND GRS GALVANIZED RIGID STEEL </th <th> GENERAL PROVIDE ELECTRICAL INSTALLATION IN ACCORDA ELECTRICAL CODE, LOCAL CODES, ORDINANCES , COMPANIES FURNISHING SERVICES TO INSTALLAT PROVIDE ALL WORK AND ITEMS NECESSARY FOR ELECTRICAL SYSTEMS. THE ELECTRICAL DRAWIN NOT NECESSARILY SHOW EVERY CONDUIT, BOX, FOR A COMPLETE INSTALLATION. THE CONTRACTOR SHALL VISIT THE SITE PRIOR CONDITIONS WHICH MAY AFFECT BID. ANY ITEM BE BROUGHT TO THE ATTENTION OF THE ARCHI 4. "REF" INDICATIONS DENOTE WORK COVERED ELS STRUCTURAL, OR MECHANICAL). REFERENCE ARCHITECTURAL DRAWING FOR EXAC QUESTIONS CONCERNING THE LOCATION OF DEVI DIRECTED TO THE ARCHITECT. FAILURE TO COOF NO WAY RESULT IN ADDITIONAL COMPENSATION CONTRACTOR. WHEREVER THE WORD "PROVIDE" IS USED, IT ME COMPLETE AND READY FOR USE." COORDINATE LOCATION OF ELECTRICAL WITH OTH REFER TO EQUIPMENT DRAWINGS FOR MECHANIC LOCATION, ETC.) OF MECHANICAL EQUIPMENT, U COORDINATE INSTALLATION AND LOCATION OF A CONTRACTOR. VERIFY ALL FUSE RATINGS, WIRE PRIOR TO INSTALLATION. </th> <th>ANCE WITH THE GOVE AND REQUIREMENTS TION. R COMPLETE AND FU IGS ARE DIAGRAMMA CONDUCTOR OR SIM TO BID AND DETERN IS NOT FULLY UNDE TECT PRIOR TO BIDE EWHERE (ARCHITECT CT LOCATION OF DEN CES AND EQUIPMEN RDINATE REQUIREMEN BEING PROVIDED TO EANS, "FURNISH AND HER TRADES. CAL CHARACTERISTIC NLESS OTHERWISE II LL EQUIPMENT WITH</th>	 GENERAL PROVIDE ELECTRICAL INSTALLATION IN ACCORDA ELECTRICAL CODE, LOCAL CODES, ORDINANCES , COMPANIES FURNISHING SERVICES TO INSTALLAT PROVIDE ALL WORK AND ITEMS NECESSARY FOR ELECTRICAL SYSTEMS. THE ELECTRICAL DRAWIN NOT NECESSARILY SHOW EVERY CONDUIT, BOX, FOR A COMPLETE INSTALLATION. THE CONTRACTOR SHALL VISIT THE SITE PRIOR CONDITIONS WHICH MAY AFFECT BID. ANY ITEM BE BROUGHT TO THE ATTENTION OF THE ARCHI 4. "REF" INDICATIONS DENOTE WORK COVERED ELS STRUCTURAL, OR MECHANICAL). REFERENCE ARCHITECTURAL DRAWING FOR EXAC QUESTIONS CONCERNING THE LOCATION OF DEVI DIRECTED TO THE ARCHITECT. FAILURE TO COOF NO WAY RESULT IN ADDITIONAL COMPENSATION CONTRACTOR. WHEREVER THE WORD "PROVIDE" IS USED, IT ME COMPLETE AND READY FOR USE." COORDINATE LOCATION OF ELECTRICAL WITH OTH REFER TO EQUIPMENT DRAWINGS FOR MECHANIC LOCATION, ETC.) OF MECHANICAL EQUIPMENT, U COORDINATE INSTALLATION AND LOCATION OF A CONTRACTOR. VERIFY ALL FUSE RATINGS, WIRE PRIOR TO INSTALLATION. 	ANCE WITH THE GOVE AND REQUIREMENTS TION. R COMPLETE AND FU IGS ARE DIAGRAMMA CONDUCTOR OR SIM TO BID AND DETERN IS NOT FULLY UNDE TECT PRIOR TO BIDE EWHERE (ARCHITECT CT LOCATION OF DEN CES AND EQUIPMEN RDINATE REQUIREMEN BEING PROVIDED TO EANS, "FURNISH AND HER TRADES. CAL CHARACTERISTIC NLESS OTHERWISE II LL EQUIPMENT WITH
O RECEPTACLE)	MIN MINIMUM MLO MAIN LUGS ONLY N NEUTRAL NEC NATIONAL ELECTRICAL CODE (NFPA-70) NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NTS NOT TO SCALE PNL PANEL POC POINT OF CONNECTION PT POTENTIAL TRANSFORMER PVC POLYVINYL CLORIDE PWR POWER QTY QUANTITY RECEPT RECEPTACLE REF REFERENCE RI ROUGH-IN RM ROOM RO RACEWAY ONLY SHT SHEET SPEC SPECIFICATIONS SW SWITCH SWBD SWITCHBOARD SWGR SWITCHGEAR TYP TYPICAL UG UNDERGROUND UL UNDERWRITERS LABORATORIES UON UNLESS OTHERWISE NOTED V VOLTS W WATTS WW WARM WHITE WP WEATHERPROOF W/ WITH W/O WITHOUT XFMR TRANSFORMER XFR TRANSFER Z IMPEDANCE OR ZONE	 PROVIDE RACEWAY AND WIRING ROUTED CONCEA WHERE POSSIBLE. WHERE RACEWAY CANNOT BE INSTALLED PER PROJECT MANAGER'S DIRECTION. INSTALLED IN NEAT SYMMETRICAL LINES HORIZO BUILDING COLUMNS AND ROOF LINES. CONDUITS SUPPORTS WHEREVER POSSIBLE. EXPOSED CONDUIT ROUTING: CONDUITS MAY BI MECHANICAL AND ELECTRICAL ROOMS ONLY. EX SECURED A MINIMUM OF 6" ABOVE FLOOR. OUTDOOR EXPOSED CONDUIT ROUTING: CONDUI TO WEATHER SHALL BE GRC, PVC OR LIQUID-TI CONNECTIONS AND FITTINGS. CLEARANCES: VERIFY PHYSICAL DIMENSIONS OF ACCESS CLEARANCES CAN BE MET. CONNECTIONS: PROVIDE GRS, METALLIC FLEX, OF FOR CONNECTIONS TO MOTORS OR MOTORIZED E WIRING: PROVIDE MINIMUM #12 AWG WIRE SIZE. MINIMUM IS TO BE 1/2". FLEXIBLE CONDUIT AN THROUGHOUT THE BUILDING. 	CONCEALED, IT SHA ALL CONDUIT SHAL NTAL OR PERPENDIO SHALL BE GROUPED E ROUTED EXPOSED XPOSED CONDUITS S TS ROUTED ON ROC GHT FLEX. PROVIDE F EQUIPMENT TO EN OR LIQUIDTITE FLEX EQUIPMENT.
	GENERAL REQU	JIREMENTS	
Έ) PHASE SE	 DRAWINGS ARE DIAGRAMMATIC, SHOWING THE G EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EX. REFER TO ARCHITECTURAL DRAWINGS FOR DIME REFER TO MANUFACTURER'S STANDARD INSTALL AND INSTALLATION REQUIREMENTS. PROVIDE CONNECTIONS, ACCESSORIES, OFFSETS SYSTEM. 	ENERAL LOCATION, TYPE, LAYOUT, AND ACT MEASUREMENT. INSIONS. LATION DRAWINGS FOR EQUIPMENT CONNECTIONS , AND MATERIALS NECESSARY FOR A COMPLETE	DWG E0.00 L E0.01 F E0.10 S
			E0.11 S
	 PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFI SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHAL SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND E COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR O RESULTING FROM SUBSTITUTIONS OR REVISIONS. 	JRER'S NAME AND CATALOG DESIGNATIONS, THE CATION FOR THAT ITEM ARE CONSIDERED PART OF LL BE ADDRESSED IN THE COST ANALYSIS OF THE	E1.00 L E1.01 L E1.02 L E1.50 L E3.00 F E3.01 F E3.02 F E5.00 L
	PRE-CON MEETIN	NG NOTES	E5.01 U E5.02 U
	CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION PURPOSE OF REVIEWING THE WORK PRIOR TO ORDER WORK. THE MEETING SHALL BE LOCATED AT THE PRO MUTUALLY AGREED. THE MEETING WILL BE A WORKING BY THE ENGINEER AND THE AGENDA WILL INCLUDE A SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS A FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT ISSUE CHANGE ORDERS. THE FOLLOWING TRADES SHALL BE REPRESENTED FO MECHANICAL SHEET METAL 4 HOURS PLUMBING/PIPING 4 HOURS ELECTRICAL 4 HOURS	ING ANY EQUIPMENT OR PERFORMING ANY DJECT SITE ON A DATE AND TIME TO BE G SESSION. THE MEETING WILL BE FACILITATED A DETAILED REVIEW OF THE PLANS AND FOR COORDINATION ISSUES, REVIEW OF AND METHODS, AND ON-SITE INVESTIGATION OF THAT COULD AFFECT THE WORK. PERSONS E OF THE PROJECT AND SHALL BE THE E PROJECT THROUGH TO COMPLETION. IF I OFFICIAL CHANNELS. CHANGES IN THE BID WILL BE ISSUED UNLESS PROCESSED THOUGH I THE ENGINEER HAS NO AUTHORITY TO	E6.00 (E6.00 F
	SPRINKLER 2 HOURS GENERAL CONTRACTOR ALL SESSIONS		

NERAL NOTES

VERNING	7. WIRING: PROVIDE MINIMUM #10 AWG COPPER CONDUCTOR SIZE IN 120V BRANCH CIRCUIT RUNS OVER 75' IN LENGTH.					
'S OF UTILITY	SITE ELECTRICAL					
FUNCTIONAL MATIC AND DO IMILAR ITEMS	1. TRENCHING: COORDINATE ALL TRENCHING WORK WITH OTHER UTILITY LOCATIONS AND DRAINAGE TRENCHES.					
RMINE	2. UNDERGROUND CONDUITS: PROVIDE PVC, SCHEDULE 40, 3/4" MINIMUM. PROVIDE GRC CONDUIT TRANSITION ELBOW WHEN TURNING UP TO ABOVE GRADE.				TION	
DERSTOOD SHALL DDING. CTURAL,	3. DIRECT-BURIED CONDUITS: CONDUIT FOR BRANCH CIRCUITS OUTSIDE BUILDINGS NOT BENEATH DRIVEWAYS OR PARKING AREAS SHALL BE DIRECTLY BURIED WITHOUT CONCRETE ENCASEMENT. THE DEPTH TO THE TOP OF BURIED CONDUITS SHALL BE 36". PROVIDE MARKER TAPE 12" BELOW GRADE.				ESCRIPTION REVIS	
EVICES. NT SHALL BE ENTS SHALL IN	4. BELOW SLAB: CONDUIT ROUTED BELOW ON-GRADE FLOOR SLABS SHALL BE INSTALLED PRIOR TO FLOOR SLAB POUR. ROUTE CONDUITS BELOW SLAB AS STRAIGHT AS POSSIBLE TO MINIMIZE BENDS.	$\left \right $			ATE DI	
TO THE	5. ALL CONDUITS PENETRATING THE BUILDING ENVELOPE BELOW GRADE SHALL FOLLOW WATERPROOFING REQUIREMENTS IN THE ARCHITECTURAL DRAWINGS.	$\left \right $		++		
ND INSTALL	NEUTRALS				Ň	
ICS (SIZE,	 AT CONTRACTORS OPTION, NEUTRALS MAY BE SHARED ON COMBINED HOMERUNS UNLESS THE CIRCUIT HAS A GFCI BREAKER, AN ISOLATED GROUND, OR IS FROM A PANEL WITH TVSS PROTECTION. ANY NEUTRAL DOWNSTREAM FROM A DIMMER SHALL BE DEDICATED TO THE DIMMED LOAD. 		STEPPER K	STE /		
INDICATED. TH MECHANICAL NNECT SIZES	 NEUTRAL WIRES SHOWN FOR TWO AND THREE POLE MECHANICAL AND KITCHEN EQUIPMENT MAY BE OMITTED UPON VERIFICATION THAT THEY ARE NOT REQUIRED EITHER FOR OPERATION OR CONTROL CIRCUITS PER MANUFACTURER'S SPECIFICATIONS. 			PERSON SERIES		
	LIGHTING			MAL ENG JOODOOC V.80	3 0/24	
ING STRUCTURE HALL BE	1. PROVIDE LIGHT FIXTURES WITH PROPER FITTING FLANGES, MOUNTING SUPPORTS, AND ACCESSORY ITEMS, UL LISTED FOR CONDITIONS OF USE.					
ALL BE DICULAR TO	LOW VOLTAGE LIGHTING					
ED ON COMMON	1. PROVIDE LOW VOLTAGE TRANSFORMERS IN NEARBY ACCESSIBLE CEILING SPACE.		Z	ソ		
D IN SHALL BE	2. PROVIDE LOW VOLTAGE CONDUCTORS SIZED PER MANUFACTURER'S GUIDELINES TO MINIMIZE VOLTAGE DROP.			ERING,	INC	
	LIGHTING CONTROL		LYNNWO 206-36	VE W., SUITE 3 DD, WA 98036 4-3343 TEL T NO.: 1219-00		
OF OR EXPOSED DE WATER-TIGHT	1. THE MAXIMUM LIGHTING POWER THAT MAY BE CONTROLLED FROM A SINGLE SWITCH OR AUTOMATIC CONTROL SHALL NOT EXCEED THAT WHICH IS PROVIDED BY A TWENTY AMPERE CIRCUIT LOADED TO NOT MORE THAN EIGHTY PERCENT. A			ARIK ESPINELI		
ENSURE THAT	MASTER CONTROL MAY BE INSTALLED PROVIDED THE INDIVIDUAL SWITCHES RETAIN THEIR CAPABILITY TO FUNCTION INDEPENDENTLY.		Š	Ř	\succ	
X CONDUITS	2. EMERGENCY FIXTURES: EMERGENCY BATTERY/CHARGER SHALL BE CONNECTED TO AN UNSWITCHED LEG OF THE DESIGNATED CIRCUIT.		: MHS	L L L	D: JAY	
TO BE USED E IS PERMISSIBLE		DRAWN:	DESIGNED	CHECKED:	APPROVED	

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I AVE W. SUITE 3 , WA 98036)364-3343

19401 40TH / LYNNWOOD, / PHONE:(206)3

ROBISON ENGINEERING, INC

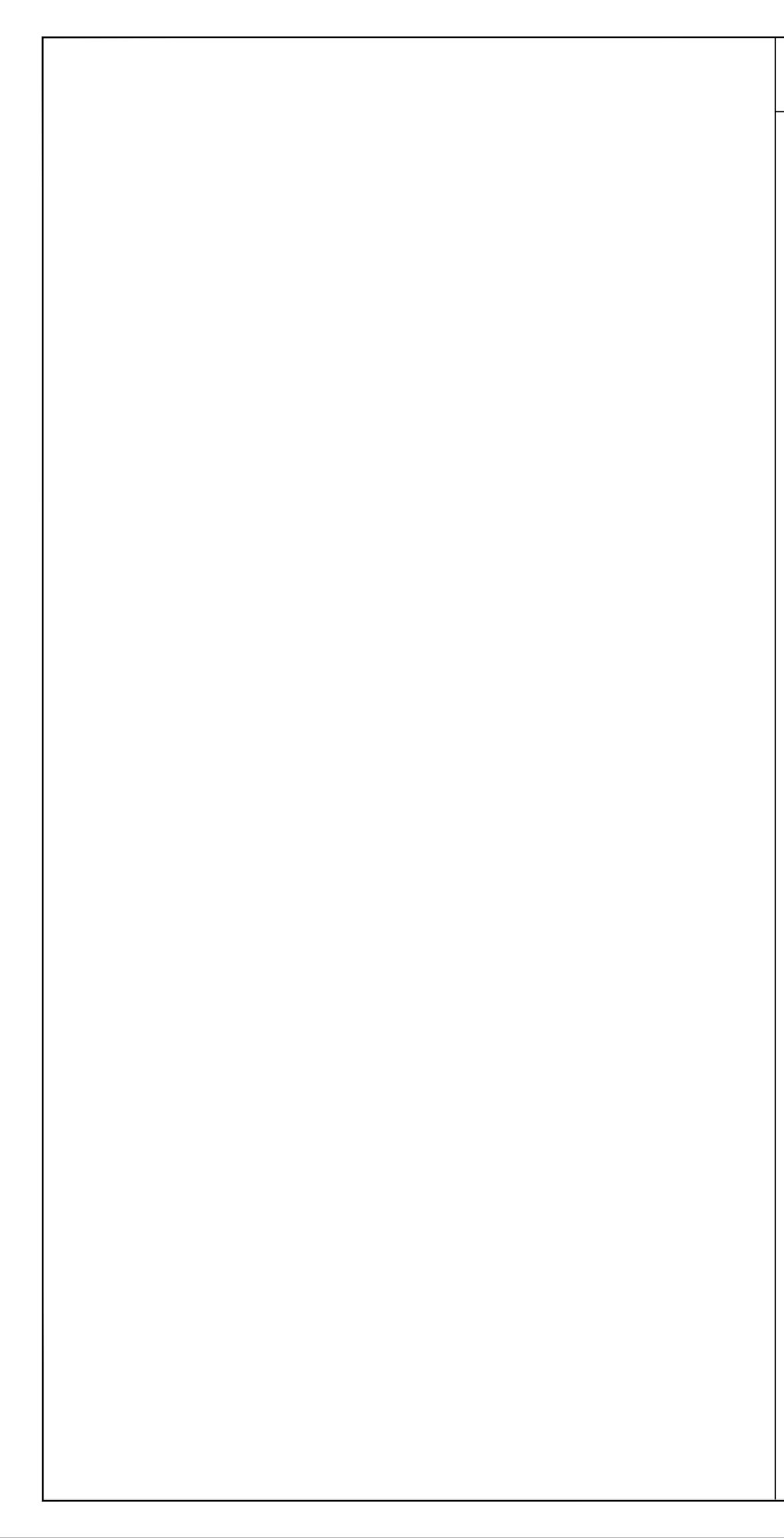
08/30/24

LEGEND, GENERAL NOTES, DRAWING INDEX

DRAWING INDEX

						<u>с</u>		
				UDED	<u> </u>			
DESCRIPTION	PERMIT REVIEW SET 10/06/23	PERMIT SET 02/15/24	PROGRESS SET 08/16/2024	OWNER CHANGES/PERMIT CORRECTIONS 08/30/24				
LEGEND, GENERAL NOTES, DRAWING INDEX	X	Х	X	X				
PROJECT NOTES	X	Х	X	Х				
SITE POWER PLAN – WEST SITE LIGHTING PLAN – WEST	X	X X	X X X	X X			 	
LIGHTING & PHOTOMETRIC PLAN-BASEMENT	X	X	X	X				
LIGHTING & PHOTOMETRIC PLAN-1ST FLOOR LIGHTING PLAN - 2ND & 3RD FLOOR LIGHTING NOTES & LUMINAIRE SCHEDULES		X X X		X X X			 	
POWER PLAN – BASEMENT & 1ST FLOOR POWER PLAN – 2ND & 3RD FLOOR	X	X	X	X			 	
POWER PLAN - ZND & SRD FLOOR	† ŷ−	- Â	ΤŶ	⊨ ŷ ∣			 	
UNIT PLANS NOTES UNIT PLANS & SCHEDULES	X	X	⊢ X				 	
UNIT PLANS & SCHEDULES	$+\hat{\chi}$	X	\uparrow	⊢ Â			 	
ONE-LINE DIAGRAM & NOTES PANELS SCHEDULES	Т Х –	X	X	X			 	
MANELS SUMEDULES		۸.						

Separate Electrical Permit is required with the Washington State Department of Labor & Industries. https://Ini.wa.gov/licensing-permits/electrical/ electrical-permits-fees-and-inspections or call for Licensing Information: 1-800-647-0982



APPLICABLE CODES

THE FOLLOWING PROJECT DESIGN IS BASED ON THE FOLLOWING CODES:

- -2020 NATIONAL ELECTRICAL CODE (NEC)
- -2018 WASHINGTON STATE ENERGY CODE (WSEC) -2018 INTERNATIONAL BUILDING CODE (IBC) & WASHINGTON STATE AMENDMENTS
- -2018 INTERNATIONAL FIRE CODE (IFC) & WASHINGTON STATE AMENDMENTS
- -2018 INTERNATIONAL MECHANICAL CODE (IMC) & WASHINGTON STATE AMENDMENTS
- -2018 UNIFORM PLUMBING CODE (UPC) & WASHINGTON STATE AMENDMENTS

VIBRATION AND ACOUSTICAL ISOLATION

THE FOLLOWING MEASURES SHALL BE TAKEN TO MINIMIZE VIBRATION AND NOISE TRANSMISSION FROM MECHANICAL AND ELECTRICAL EQUIPMENT TO THE INTERIOR SPACES:

TRANSFORMERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

B) MOUNT TRANSFORMERS ON NEOPRENE GROMMET ISOLATORS.

SUBDUCT EXHAUST FANS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION. ENCLOSED GARAGE EXHAUST FANS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION. ROOFTOP AIR HANDLERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION. FAN COIL UNITS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION. ROOF MOUNTED CONDENSERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

FLEXIBLE CONDUIT OR MC CABLE CONNECTIONS FOR VIBRATION ISOLATION SHALL BE A MINIMUM OF TWO FEET LONG.

TEMPERATURE LIMITATION OF CONDUCTORS

ADDITIONAL ADJUSTMENTS FOR CONDUITS EXPOSED TO SUNLIGHT ON OR ABOVE ROOFTOPS SHALL BE FACTORED PER NEC TABLE 310.15(B)(2)(C)

CONDUIT & CONDUCTOR FIRE RATING

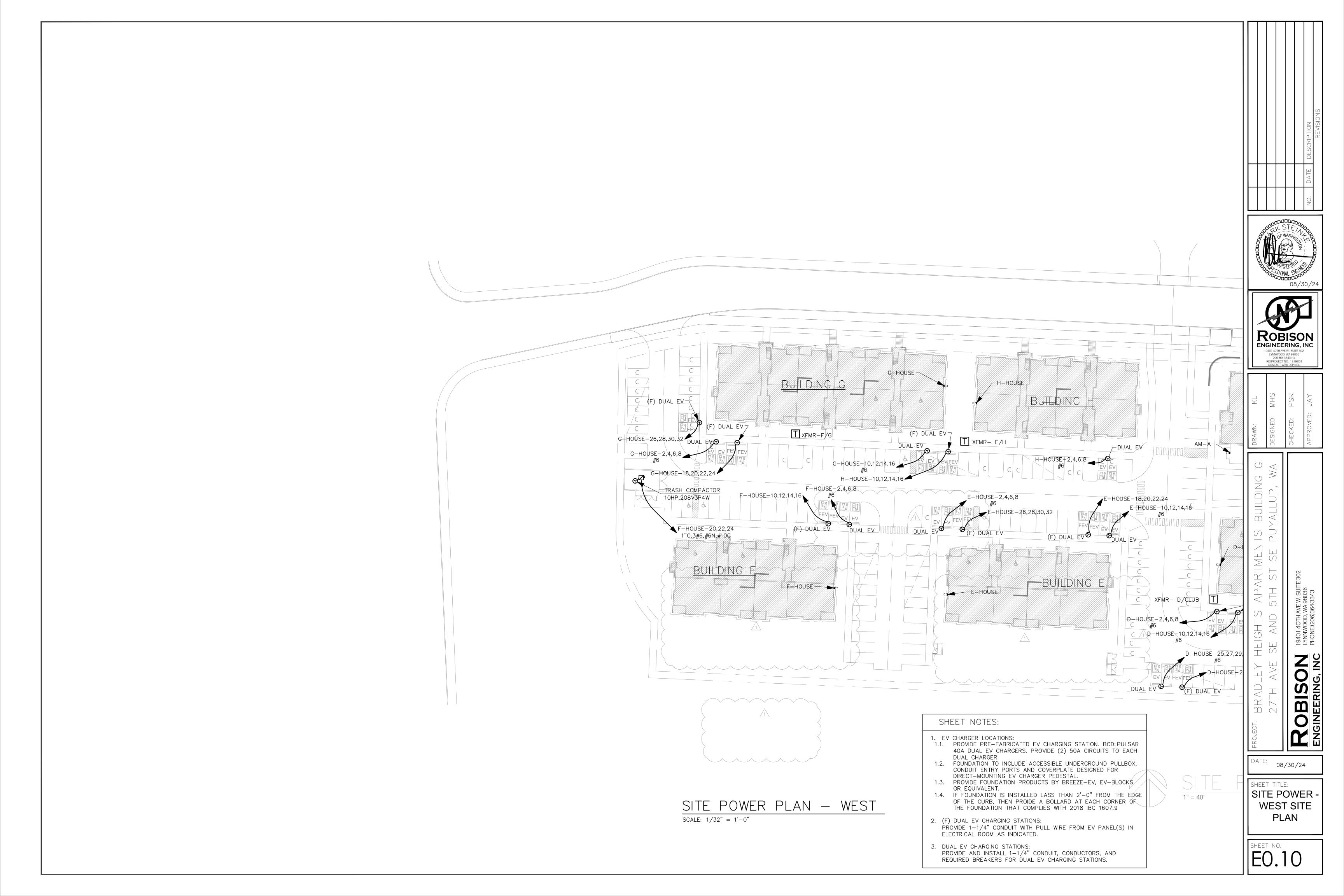
1. CONDUIT FOR ELECTRICAL CONDUCTORS BY THE FACP OR FIRE ALARM SYSTEM SHALL BE IN 2 HOUR RATED ENCLOSURES OR ENCASED IN 2-INCH OF CONCRETE AND RATED CABLE ASSEMBLIES, OR BE CONDUCTORS IN 2 HOUR-RATED RACEWAYS PER NFPA 72.

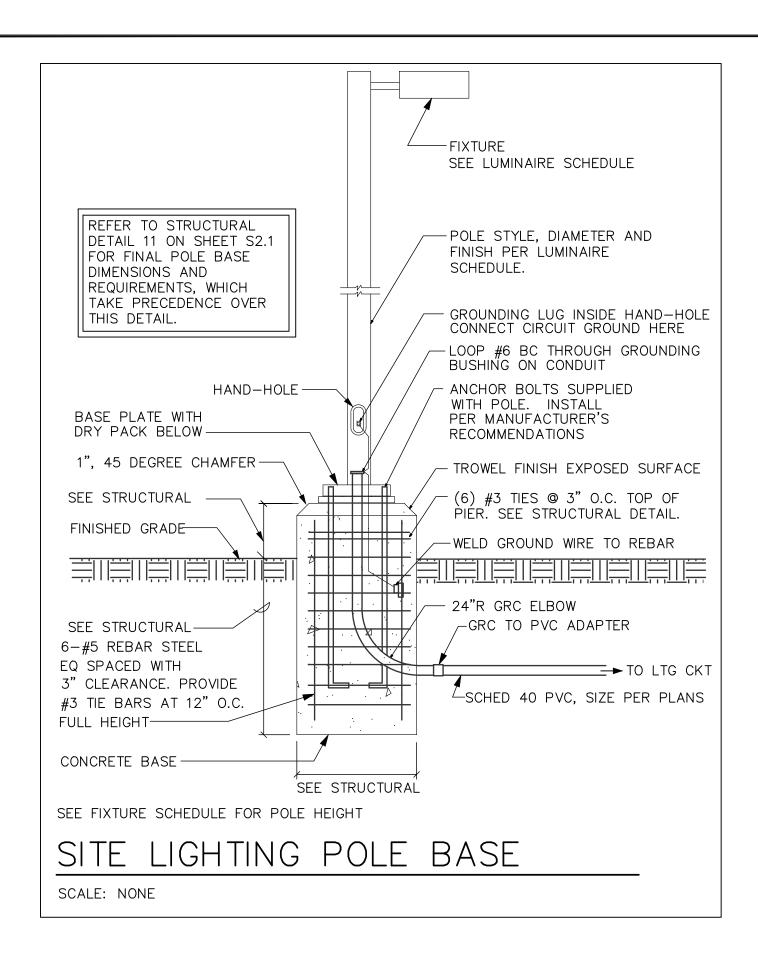
2. THE EQUIPMENT AND CONTROL WIRING SHALL BE ENCLOSED BY FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH IBC SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH IBC SECTION 711, OR USING A 2 HR RATED CABLE SYSTEM OR ENCLOSED WITHIN 2" OF CONCRETE.

3. FIRE ALARM WIRING SHALL COMPLY WITH IBC 907.6.1. WIRING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 70.

4. RACEWAYS FOR THE DEDICATED BRANCH CIRCUIT(S) REQUIRED FOR PRIMARY POWER TO THE FIRE ALARM CONTROL PANEL (FACP) SHALL BE IN 2 HOUR RATED ENCLOSURES OR ENCASED IN 2-INCH OF CONCRETE AND RATED CABLE ASSEMBLIES, OR BE CONDUCTORS IN 2 HOUR-RATED RACEWAYS PER IBC 907 AND NFPA 72 SECTION 10.6.11.3.1.3

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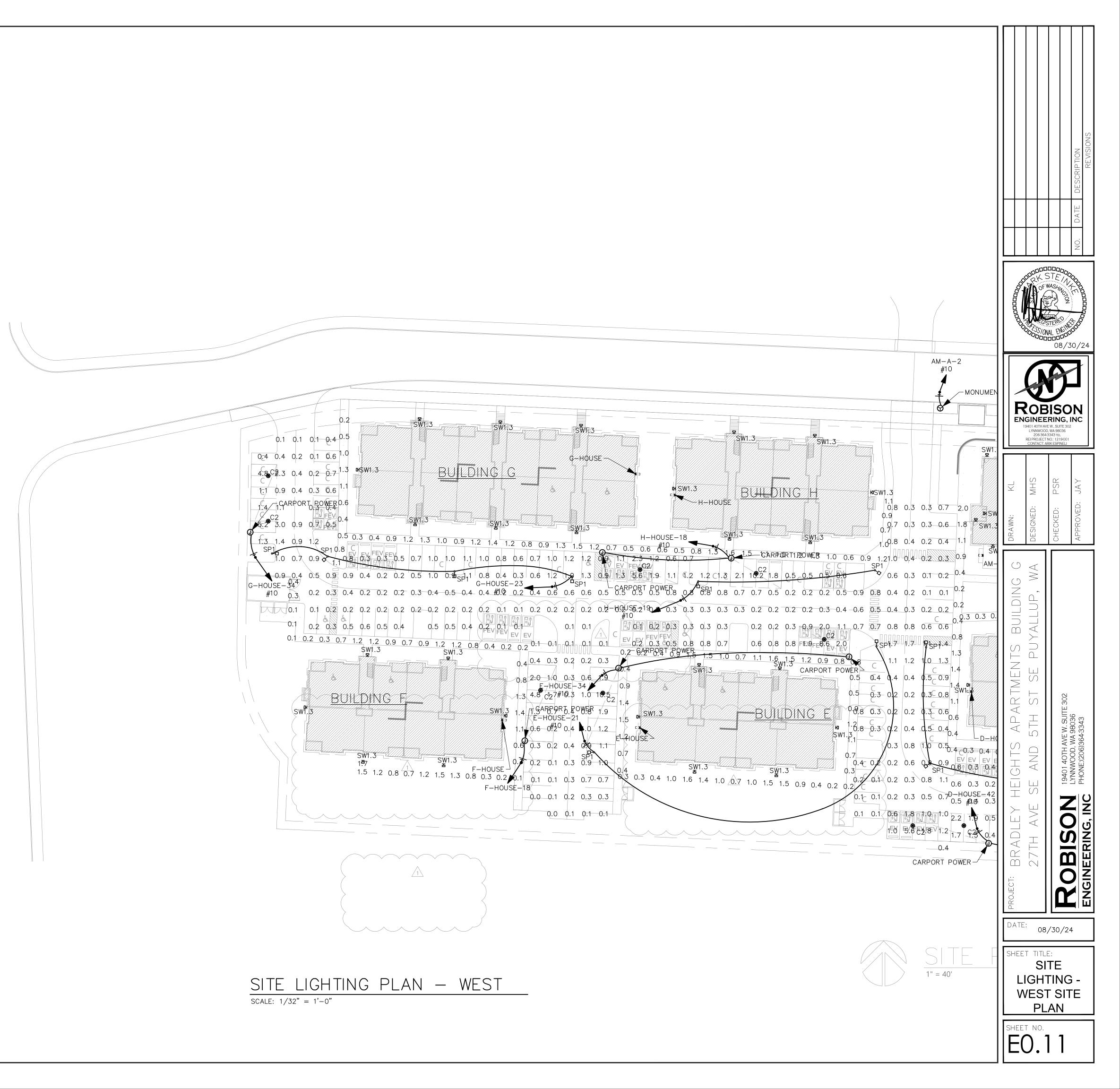


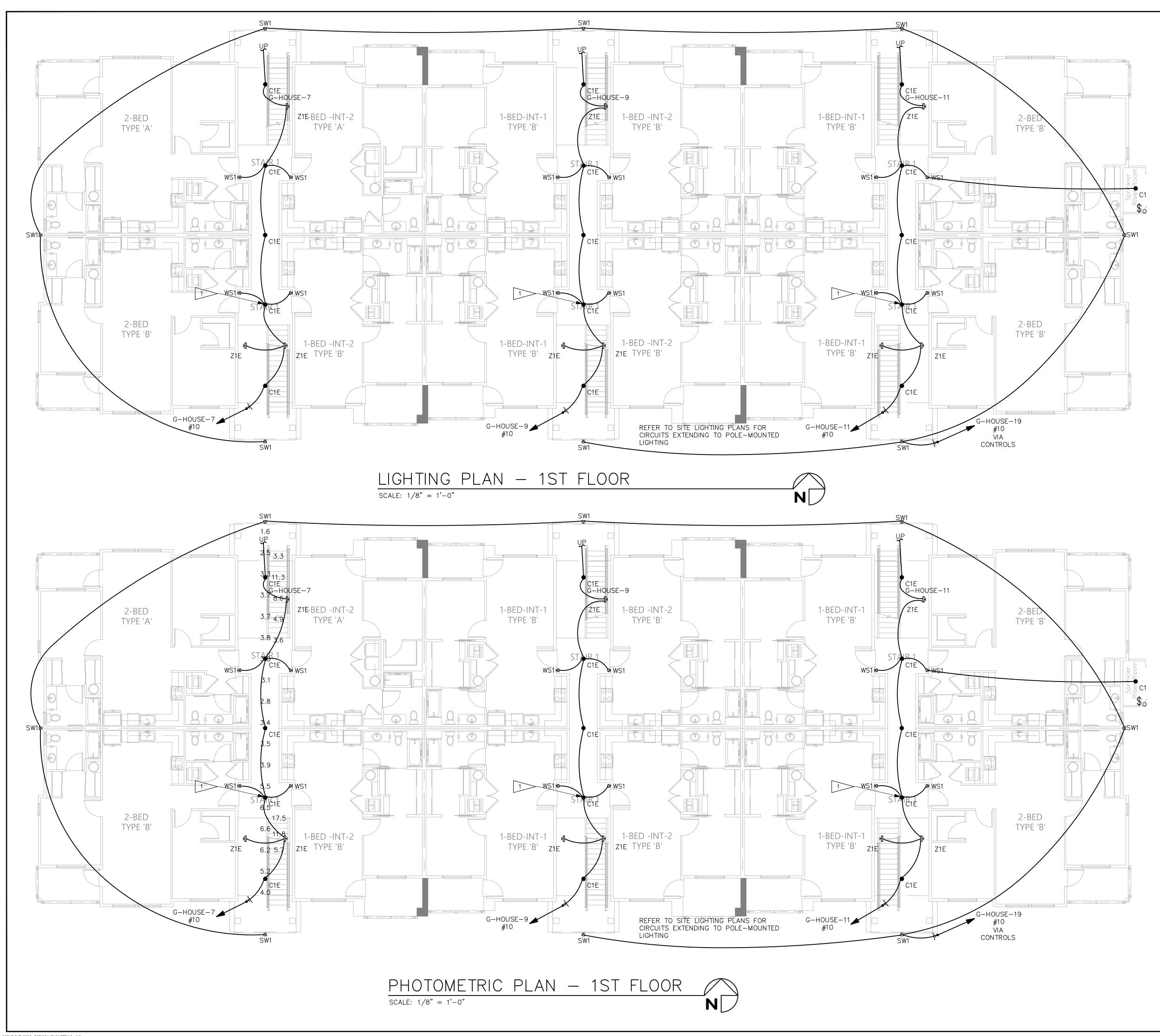


Drive Aisle Photometric Schedule

AVERAGE FOOT-CANDLES	0.74
MAXIMUM FOOT-CANDLES	10.5
MINIMUM FOOT-CANDLES	0.0
MAXIMUM TO MINIMUM FC RATIO	912.07
AVERAGE TO MINIMUM FC RATIO	64.31

Walkway F Schedule	Photometric
AVERAGE FOOT-CANDLES	0.82
MAXIMUM FOOT-CANDLES	3.1
MINIMUM FOOT-CANDLES	0.1
MAXIMUM TO MINIMUM FC RATIO	41.68
AVERAGE TO MINIMUM FC RATIO	11.02





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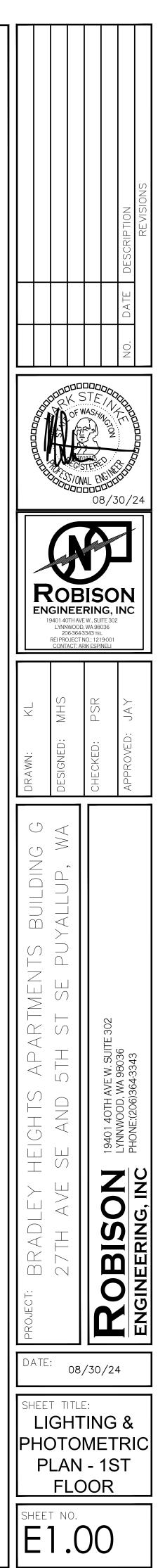
	GENERAL NOTES
1.	EMERGENCY EGRESS LIGHTING: EMERGENCY LUMINAIRES WITH 90 MINUTE BATTERY BACKUP.
2.	REFER TO SERIES E500 DRAWINGS FOR TYPICAL UNIT PLANS SHOWING ELECTRICAL AND LIGHTING LAYOUT.
3.	SEE SHEET E1.50 FOR LUMINAIRE SCHEDULE AND LIGHTING NOTES.
	FLAG NOTES <#
1.	CIRCUIT STAIRS VERTICALLY. LUMINAIRE(S) IN STAIRWELL

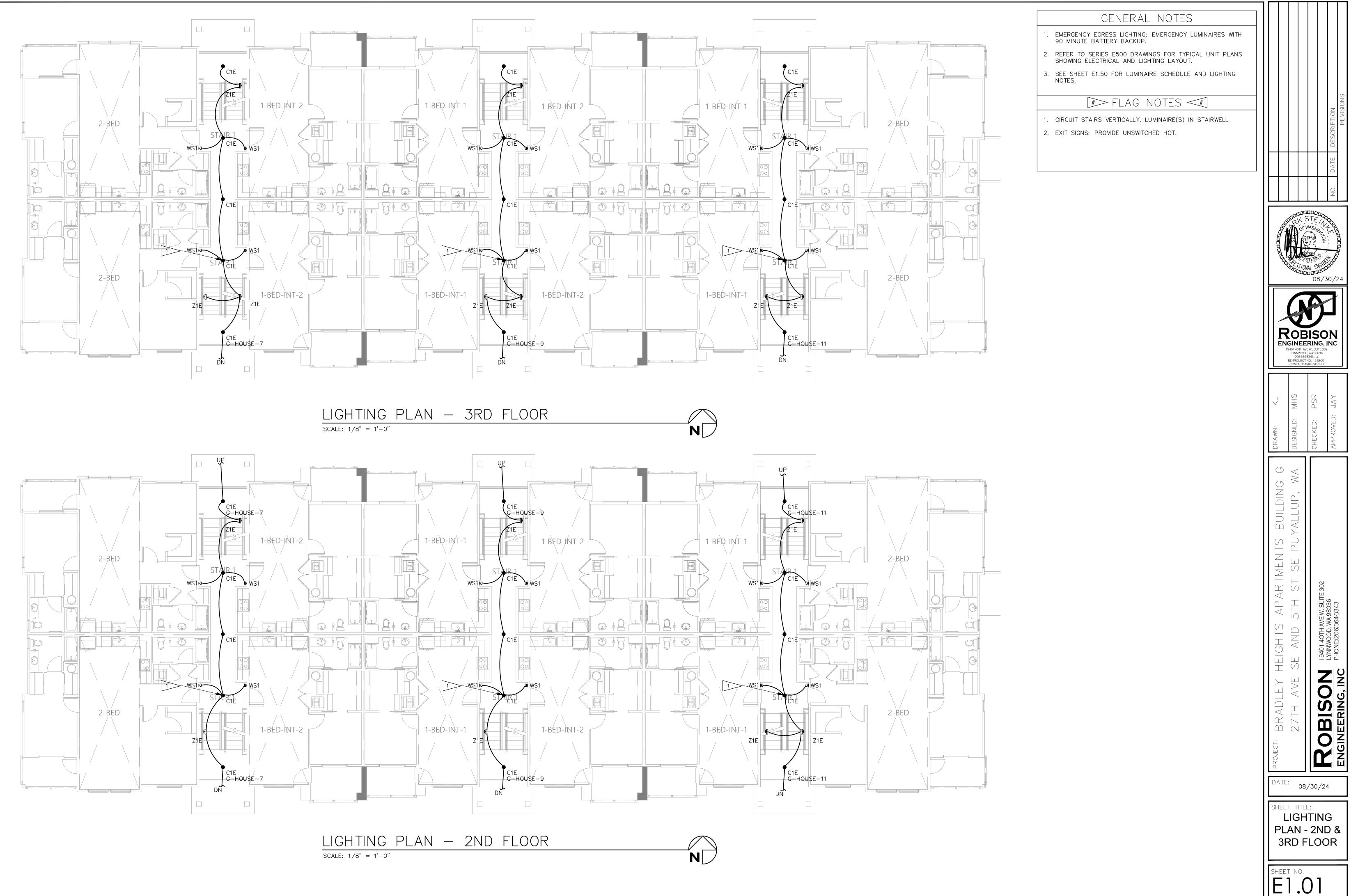
2. EXIT SIGNS: PROVIDE UNSWITCHED HOT.

Egress Sta Photometri	ir #1 .c Schedule
AVERAGE FOOT-CANDLES	11.69
MAXIMUM FOOT-CANDLES	17.5
MINIMUM FOOT-CANDLES	5.7
MINIMUM TO MAXIMUM FC RATIO	0.33
MAXIMUM TO MINIMUM FC RATIO	3.07
AVERAGE TO MINIMUM FC RATIO	2.05

Egress Pho Schedule	otometric
AVERAGE FOOT-CANDLES	4.06
MAXIMUM FOOT-CANDLES	6.6
MINIMUM FOOT-CANDLES	1.6
MINIMUM TO MAXIMUM FC RATIO	0.25
MAXIMUM TO MINIMUM FC RATIO	4.03
AVERAGE TO MINIMUM FC RATIO	2.48

Egress Sta Photometri	11
AVERAGE FOOT-CANDLES	6.35
MAXIMUM FOOT-CANDLES	11.3
MINIMUM FOOT-CANDLES	3.3
MINIMUM TO MAXIMUM FC RATIO	0.30
MAXIMUM TO MINIMUM FC RATIO	3.38
AVERAGE TO MINIMUM FC RATIO	1.90
	•





EXTE	ERIOR	LUMINA	AIRE SCHEDULE						
CALLOUT	SYMBOL	MOUNTING	DESCRIPTION	MODEL	VOLTAGE	TYPE	CRI / CCT	LAMPING	WATTAGE
SP1	<u>∽</u>	16' POLE		GARDCO: P20 C A02 830 T1S AR1 120 BL30-MW PCB	MULTIPLE	INTEGRAL CONTROLS	80 / 3000K	(1) 36W LED	36
SW1	ю	SURFACE – 12'AFF	WALL SCONCE – AREA LIGHT – B1 U0 G1	GARDCO: GWM A06 830 T3M 120 MW30 PCB	120	INTEGRAL CONTROLS	80 / 3000K	(1) 16W LED	16

NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.

4. 'BUG' RATING ON EXTERIOR FIXTURES INDICATES 'BACKLIGHT', 'UPLIGHT', AND 'GLARE' AS STANDARDS IN CLASSIFYING OUTDOOR LIGHT FIXTURES.

CALLOUT	SYMBOL	MOUNTING	DESCRIPTION	MODEL	VOLTAGE	TYPE	CRI / CCT	LAMPING	WATTAGE
B1		SURFACE	4' NARROW WRAP – BOH	DAY-BRITE CFI: FSW440L835 UNV DIM	120	0–10V DIMMING	80 / 3000K	(1) 31.4W LED	31.4
C1E	•	SURFACE	4" SURFACE DOWNLIGHT	DMF: DRDH N JO 70S EM / DRD5S 4 R 07 9 30 EM	120	0-10V DIMMING	90 / 3000K	(1) 9W LED	9
D1	o	RECESSED	RECESSED DOWNLIGHT - SLOPED CEILING	DMF: DRD4M 10 9 30 FL X 0 / DRDH N JS 1004	120	0-10V DIMMING	90 / 3000K	(1) 12W LED	12
P1	o	PENDANT	STEM MOUNT DOWNLIGHT – SLOPED CEILING – 4' STEM	DMF: DCR T4 S X A 30 FL 0 00 30 XX O 00 [FINISH]	120	0-10V DIMMING	90 / 3000K	(1) 40W LED	40
WS1	ю	SURFACE	WALL SCONCE - EM BATTERY BACKUP	TBD	120	TBD DIMMING	TBD / TBD	(1) 5W LED	5
X1	8	SURFACE	EXIT SIGN – EMERGENCY BATTERY BACKUP – HATCH INDICATES LIT FACE	LSI: EMS WB SERIES (OR EQUAL)	MULTIPLE	EM	EM / EM	(1) 5W EM	5
X2	×,	SURFACE	COMBO EXIT SIGN	LSI: CEC (OR EQUAL)	MULTIPLE	EM	EM / EM	(1) 5W EM	5
X3	₽	SURFACE	EMERGENCY LIGHT – EMERGENCY BATTERY BACKUP DAMP LOCATION RATED – MAX 35' SPACING	LITHONIA: ELM2LF (OR EQUAL)	120	EM	EM / EM	(1) 5W EM	5
X4	H	WALL	EXTERIOR EMERGENCY LIGHT – EMERGENCY ON ONLY – MAX SPACING 35'	NORA LIGHTING: NE-902LED	120	EM	35' MAX SPACING	(1) 5W LED	5
Z1E	н	WALL	WALL PACK	LITHONIA: WPX1 LED P1 30K MVOLT	120	EM	70 / 3000K	(1) 11W LED	11

NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.

 LUMINAIRE SCHEDULE IS BOD ONLY. CONTRACTOR TO SUBMIT FIXTURE MODEL OR EQUIVALENT. CONTRACTOR TO COORDINATE FIXTURE FINISHES WITH ARCHITECT/OWNER.
 FIXTURE CATALOG NUMBERS DO NOT NECESSARILY DENOTE SPECIFIC MOUNTING ACCESSORIES. CONTRACTOR TO PROVIDE ALL NECESSARY ACCESSORIES TO SUCCESSFULLY COMPLETE THE INSTALLATION.

LUMINAIRE SCHEDULE IS BOD ONLY. CONTRACTOR TO SUBMIT FIXTURE MODEL OR EQUIVALENT. CONTRACTOR TO COORDINATE FIXTURE FINISHES WITH ARCHITECT/OWNER. FIXTURE CATALOG NUMBERS DO NOT NECESSARILY DENOTE SPECIFIC MOUNTING ACCESSORIES. CONTRACTOR TO PROVIDE ALL NECESSARY ACCESSORIES TO SUCCESSFULLY COMPLETE THE INSTALLATION.

	LIGHTING CONTROLS LEGEND					
SYMBOL	CONTROL TYPE	CONTROL FUNCTION				
\$ \$ \$	TOGGLE SWITCH	MANUAL ON/OFF LIGHTING CONTROL. SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY WHICH SWITCH (WSEC C405.2.3). SUBSCRIPT 'k' INDICATES TAMPER RESISTANT KEYED SWITCH FOR USE BY AUTHORIZED PERSONNEL ONLY.				
\square	DIMMER SWITCH	MANUAL MULTI-LEVEL LIGHTING CONTROL. SWITCH SHALL ALSO HAVE MANUAL ON/OFF FUNCTIONALITY. SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY WHICH DIMMER. (C405.2.3)				
vs vs os os \$	TOGGLE/DIMMER SWITCH WITH OCCUPANCY SENSOR	SWITCHES LABELED 'os' OR 'vs' SHALL TURN OFF ALL CONNECTED LUMINAIRES WITHIN 20 MINUTES OF SPACE BEING VACANT. (C405.2.1.1)				
CS-01	CONTROL STATION; SEE LIGHTING CONTROL ZONE TABLE ON PLANS.	MANUAL LOCAL LIGHTING CONTROL (C405.2.1.1). CONTROL STATION SHALL HAVE CAPACITY TO CONTROL MULTIPLE ZONES AND MULTIPLE SCENES AS NEEDED. SUBSCRIPT CORRESPONDS TO 'LIGHTING CONTROLS' TABLE ON PLANS.				
os	SURFACE MOUNTED OCCUPANCY SENSOR	AUTOMATIC LIGHTING CONTROL SHALL TURN OFF ALL CONNECTED LUMINAIRES WITHIN 20 MINUTES OF SPACE BEING VACANT. (C404.2.1.1)				
ex PS	MULTIZONE PHOTOSENSOR	AUTOMATIC LIGHTING CONTROL SHALL AUTOMATICALLY ADJUST THE LIGHT OUTPUT OF ALL CONNECTED LUMINAIRES BASED ON THE DAYLIGHT LEVEL IN THE PRIMARY AND SECONDARY ZONES (C405.2.4). SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY ZONE; 'x' INDICATES MULTIPLE ZONE CONTROL.				

5.1. 5.2. 5.2.

6. MI

7.2.

DURI ELEC THA1 SIGN ADDI

4.

2 F

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8. C 9. C(

10. WH LC

11. TH AN

12. WH LI

<u>SPECI</u> . F

1. CC

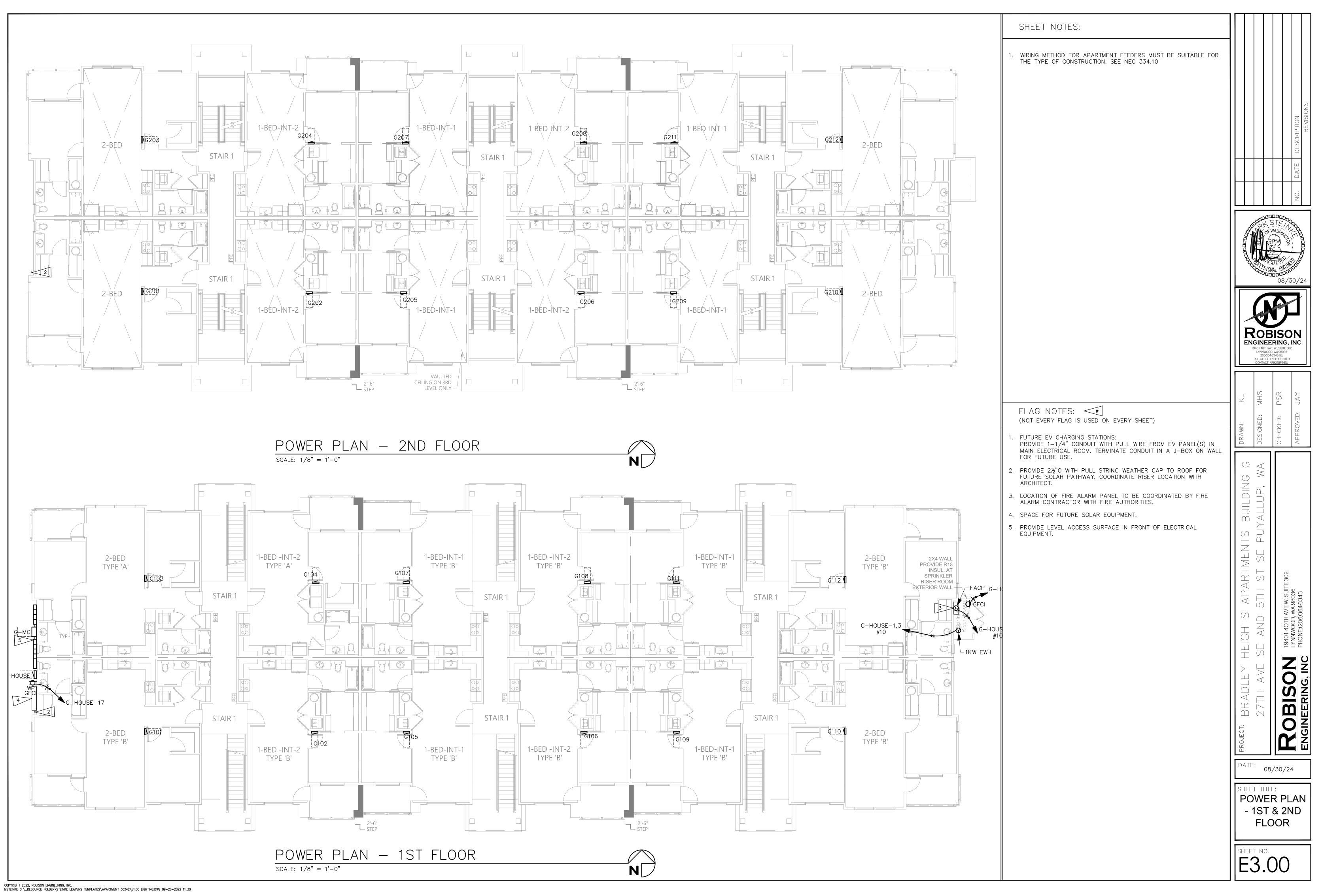
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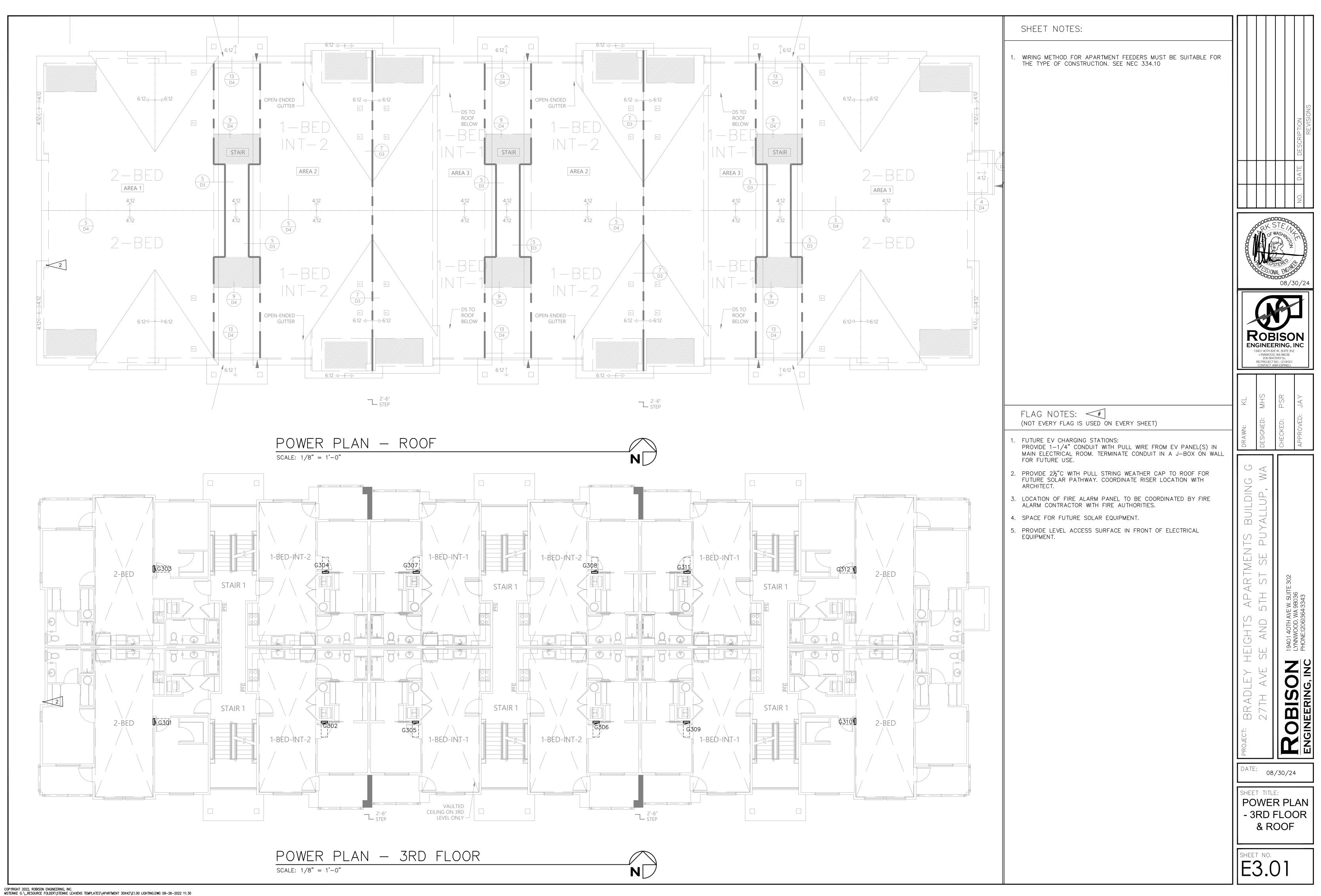
3 F

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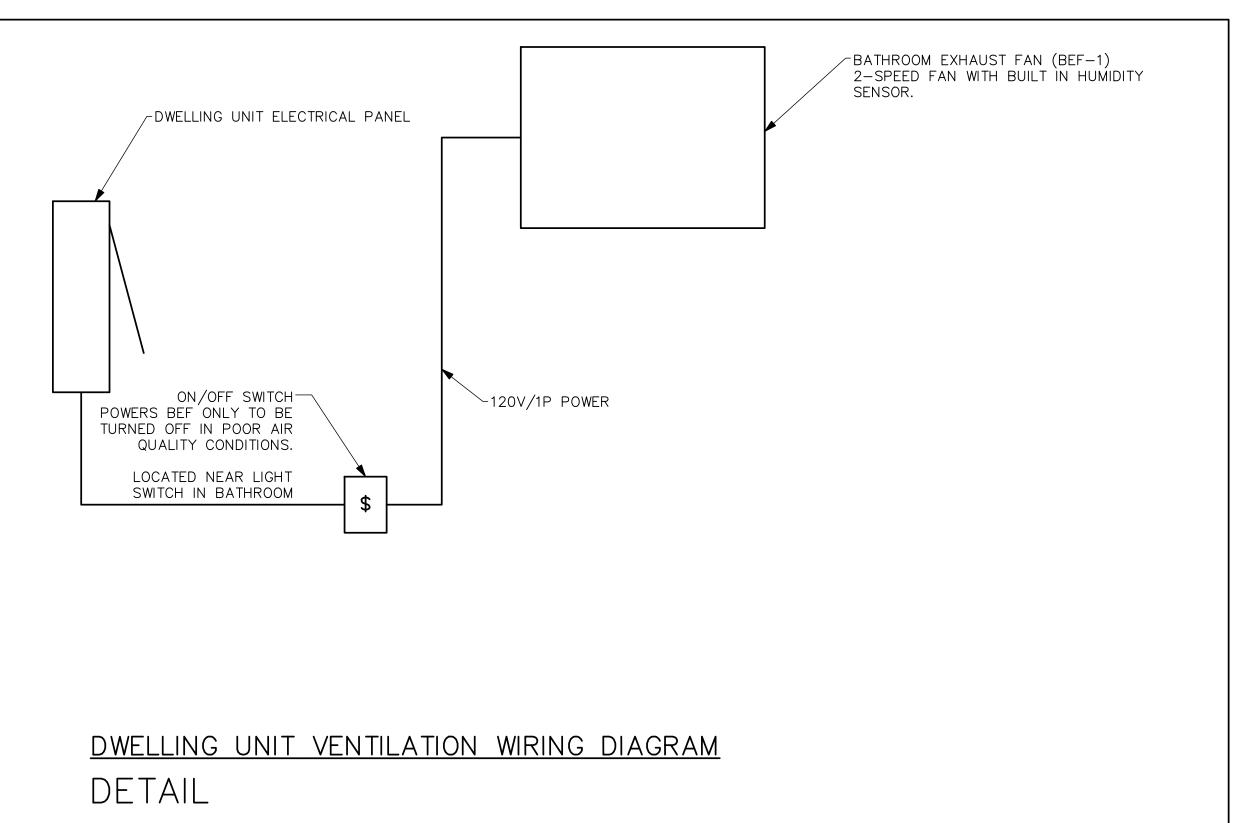
5. PR

	general lighting notes		
	LIGHTING CONTROLS SHALL BE INSTALLED WHICH MEET ALL REQUIREMENTS OF LOCAL ENERGY CODES. EMERGENCY LIGHT FIXTURES: IN ADDITION TO SWITCH-LEG, PROVIDE UNSWITCHED HOT TO SERVE INTERNAL BATTERY AND CHARGER.		
3.	LOCATIONS OF OCCUPANCY SENSORS, PHOTO SENSORS, DIMMERS, AND SWITCHES ARE DIAGRAMMATIC. CONTRACTOR TO COORDINATE QUANTITIES AND OPTIMAL LOCATIONS WITH LIGHTING CONTROL MANUFACTURER AND ARCH/OWNER.		
4.	AUTOMATIC LIGHTING SHUT-OFF CONTROLS SHALL BE PROVIDED BY LOCAL OCCUPANCY SENSORS UNLESS OTHERWISE NOTED. PUBLIC SPACES ARE ACTIVE 24/7 AND THEREFORE EXEMPT FROM AUTOMATIC LIGHTING SHUT-OFF REQUIREMENTS FOR SECURITY. (WSEC C405.2)		N SIONS
5.	DAYLIGHT ZONES ARE SHOWN ON PLANS AS DEFINED BY WASHINGTON STATE ENERGY CODE (WSEC) C405.2.4.2. SIDELIGHT DAYLIGHT ZONES ARE REFERRED TO AS 'PRIMARY' AND 'SECONDARY' ON PLANS AND DENOTED BY DASHED LINES.		SCRIPTION
δ.	FOR CUSTOM FF&E FIXTURES, IT IS THE MANUFACTURER'S RESPONSIBILITY TO FURNISH PRODUCTS WHICH ARE COMPLIANT WITH ALL REQUIREMENTS OF LOCAL ENERGY CODES, AS WELL AS MATCH THE ELECTRICAL SPECIFICATIONS PROVIDED IN THE LUMINAIRE SCHEDULES. PROVIDE SUBMITTAL SHOP DRAWINGS WITHIN 30 DAYS OF RECEIVING FIXTURE ORDER. SUBMITTALS SHALL CLEARLY INDICATE LAMPING AND MAXIMUM WATTAGE RATING OF LAMP SOCKETS. NON-COMPLIANT FIXTURES REJECTED BY ELECTRICAL INSPECTOR SHALL BE RETURNED TO THE MANUFACTURER FOR REWORKING AND/OR RE-LABELING.		DATE
	ALL FIXTURES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.		NO.
	CONTRACTOR SHALL BE RESPONSIBLE TO ORDER ALL NECESSARY HARDWARE, ELECTRICAL CABLE, TIMERS, TRANSFORMERS, ETC., AS REQUIRED FOR COMPLETION OF INSTALLATION OF A FULLY FUNCTIONING SYSTEM.	ADD RKS	TEIN
	CONTRACTOR SHALL BE RESPONSIBLE FOR EQUIPPING ALL FIXTURES WITH THE EXACT LAMPS SPECIFIED IN THE FIXTURE SCHEDULE.	of W	VASAN ATT
	WHERE FIXTURES REQUIRE REMOTE TRANSFORMERS OR BALLASTS, THE CONTRACTOR SHALL DETERMINE LOCATIONS AS REQUIRED FOR EVEN LOAD DISTRIBUTION, SERVICE ACCESS, AND VENTILATION.		TERE CLAR
11.	THE CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL ENGINEER FOR EXACT LOCATIONS OF TIMERS AND/OR PHOTO CELLS, IF ANY.		AL ENJOIDU 000000000000000000000000000000000000
	WHERE APPLICABLE, THE CONTRACTOR SHALL AIM AND ADJUST LIGHTING FIXTURES AS DIRECTED BY THE LIGHTING DESIGNER UPON COMPLETION OF THE INSTALLATION.		
1.	FIXTURE SUBMITTALS THAT DO NOT INCLUDE LAMP SPECIFICATIONS WILL BE CONSIDERED INCOMPLETE AND WILL NOT BE REVIEWED.		
	LIGHTING CONTROL SYSTEM REQUIREMENTS	19401 40TH AVE LYNNWOOD, 206:3643 REI PROJECT N CONTACT: AR	E W., SUITE 302 , WA 98036 3343 TEL NO.: 1219-001
	CONTRACTOR TO PROVIDE A FULLY OPERATIONAL LIGHTING CONTROL SYSTEM.		
3.	PRIOR TO INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH A LIGHTING CONTROLS VENDOR TO OBTAIN LIGHTING CONTROL SYSTEM PACKAGE COMPLETE WITH DEVICES, WIRING DIAGRAMS, ANNOTATED PLANS INDICATING WHICH DEVICE TO BE USED IN EACH LOCATION, CONNECTION REQUIREMENTS, SET UP INSTRUCTIONS, COMMISSIONING AND CHECK-OUT FOLLOWING COMPLETION. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR CONTROL DEVICE INTERCONNECTIONS.	RAWN: KL ESIGNED: MHS	ECKED: PSR PROVED: JAY
4.	INSTALLER QUALIFICATIONS: TECHNICIAN INSTALLING AND WIRING THE LIGHTING CONTROL SYSTEM SHALL HAVE INSTALLED THIS SAME SYSTEM AT LEAST ONCE PREVIOUSLY. TECHNICIAN SHALL HAVE RECEIVED TRAINING BY FACTORY REPRESENTATIVE ON THE SYSTEM BEING INSTALLED.	DRAV	CHEC
5.	PROVIDE LIGHTING CONTROL SYSTEM TO PERFORM THE FUNCTIONS DESCRIBED BELOW:		
5.	1. LIGHTING CONTROL SCHEDULE: PROVIDE SEPARATE SWITCHING AND DIMMING CONTROL FOR LIGHTING ZONES AS INDICATED.	D V.	
	 AUTOMATIC LIGHTING CONTROLS: UNLESS OTHERWISE NOTED ON PLANS, OCCUPANCY SENSORS SHALL AUTOMATICALLY TURN OFF ALL CONNECTED LIGHTING WITHIN 20 MINUTES OF SPACE BEING UNOCCUPIED. OCCUPANCY SENSORS SHALL EITHER BE MANUAL ON OR SHALL BE CONTROLLED TO AUTOMATICALLY TURN THE LIGHTING ON TO NOT MORE THAN 50 PERCENT POWER EXCEPT WHERE MANUAL ON WOULD ENDANGER THE SAFETY OR SECURITY OF THE ROOM OR BUILDING OCCUPANTS. (C405.2.1.1) MULTI-ZONE PHOTO-SENSORS SHALL PROVIDE SEPARATE CONTROL FOR LUMINAIRES IN EACH TYPE OF DAYLIGHT ZONE. (C405.2.4.1) EXTERIOR LIGHTING CONTROLS SHALL AUTOMATICALLY TURN OFF ALL EXTERIOR LIGHTING AS A FUNCTION OF AVAILABLE DAYLIGHT. BUILDING FACADE AND LANDSCAPE LIGHTING SHALL HAVE CONTROLS THAT AUTOMATICALLY SHUT OFF THE LIGHTING FOR A MINIMUM OF 6 HOURS PER NIGHT OR NOT LATER THAN ONE HOUR AFTER BUSINESS CLOSING TO NOT EARLIER THAN ONE HOUR BEFORE BUSINESS OPENING, WHICHEVER IS LESS. OTHER LIGHTING SHALL HAVE CONTROLS CONFIGURED TO AUTOMATICALLY REDUCE THE CONNECTED LIGHTING POWER BY AT LEAST 30 PERCENT FROM NO LATER THAN 12 MIDNIGHT TO 6 AM OR FROM ON HOUR AFTER BUSINESS CLOSING TO ONE HOUR BEFORE BUSINESS OPENING OR DURING ANY PERIOD WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES. (C405.2.6) 	APARTMENTS BUILD 5th st se puyallui	19401 40TH AVE W. SUITE 302 LYNNWOOD, WA 98036 PHONE:(206)364-3343
3.	MEANS OF EGRESS ILLUMINATION: AT ANY TIME THE BUILDING IS OCCUPIED, THE MEANS OF EGRESS SHALL BE ILLUMINATED AT AN INTENSITY OF NOT LESS THAN 1 FOOTCANDLE AT FLOOR LEVEL. (IBC 1008.2.1)		ОТН АИІ ООD, W [₽] (206)36 ²
7.	DURING EMERGENCY CONDITIONS EMERGENCY LIGHTING CIRCUITS SHALL BYPASS ALL LIGHTING CONTROLS IN ORDER TO ENERGIZE ALL CONNECTED LUMINAIRES AT FULL CAPACITY. PROVIDE UL924 RELAYS AS	EIGH	19401 4 LYNNWC PHONE:
7.	REQUIRED TO BYPASS AREA CONTROLS. 1. EMERGENCY PATHWAY EGRESS LIGHTING: ILLUMINATION PROVIDED ALONG THE EGRESS PATH AT FLOOR LEVEL SUALL AVERAGE AT LEAST 1 FOOT CANDLE (IDC 1008 3.5)		
7.	LEVEL SHALL AVERAGE AT LEAST 1 FOOT CANDLE. (IBC 1008.3.5) 2. EMERGENCY LIGHTING SHALL BE SUPPLIED BY: ELECTRICAL CONTRACTOR	AVE	Ū Ū Ū
		BRAD 27th	BIS NEERIN
		PROJECT:	ENGIP
	EXIT SIGN NOTES	DATE: 08,	/30/24
El Th SI	URING CONSTRUCTION UPON COMPLETION OF A TYPICAL FLOOR FRAMING AND BEFORE WALL COVER, LECTRICAL CONTRACTOR SHALL WALK THE EGRESS PATHS WITH THE LOCAL INSPECTOR (AHJ) TO CONFIRM HAT ALL THE EXIT SIGNS ARE LOCATED PER THE AHJ'S SATISFACTION AND IDENTIFY ANY ADDITIONAL EXIT IGNS THAT THE AHJ WISHES TO BE INSTALLED (IBC 1013.1). CONTRACTOR SHALL PROVIDE UP TO 10% DDITIONAL EXIT SIGNS AT NO ADDITIONAL COST.	SHEET TITLE LIGH PLAN FLC	TING - 3RD
		SHEET NO.	50
		11	





CALLOUT	SYMBOL	MOUNTING	DESCRIPTION	MODEL	VOLTAGE	TYPE	LAMPING	WATTAGE	NOTES
U1	0	CEILING	4" DOWNLIGHT	DMF: DRD5S-4-R-10-9-30-0	120	0-10V DIMMING	(1) 12W LED 3000K	12	
U2	0	CEILING	4" DOWNLIGHT WET RATED	DMF: DRD5S-4-S-10-9-30-0	120	0-10V DIMMING	(1) 12W LED 3000K	12	
U3	Н	WALL	24" VANITY LIGHT	MAXIM - 52102	120	ELV DIMMING	(1) 16W LED 3000K	16	
∪4	Ю	WALL	SLIM BALCONY LIGHT	MAXIM – 26106BK	120	NON DIMMING	(1) 10W LED 3000K	10	
U5	0	SURFACE	6" FLUSH MOUNT DOWNLIGHT	MAXIM - 57413WTWT	120	0-10V DIMMING	(1) 11W LED 3000K	11	

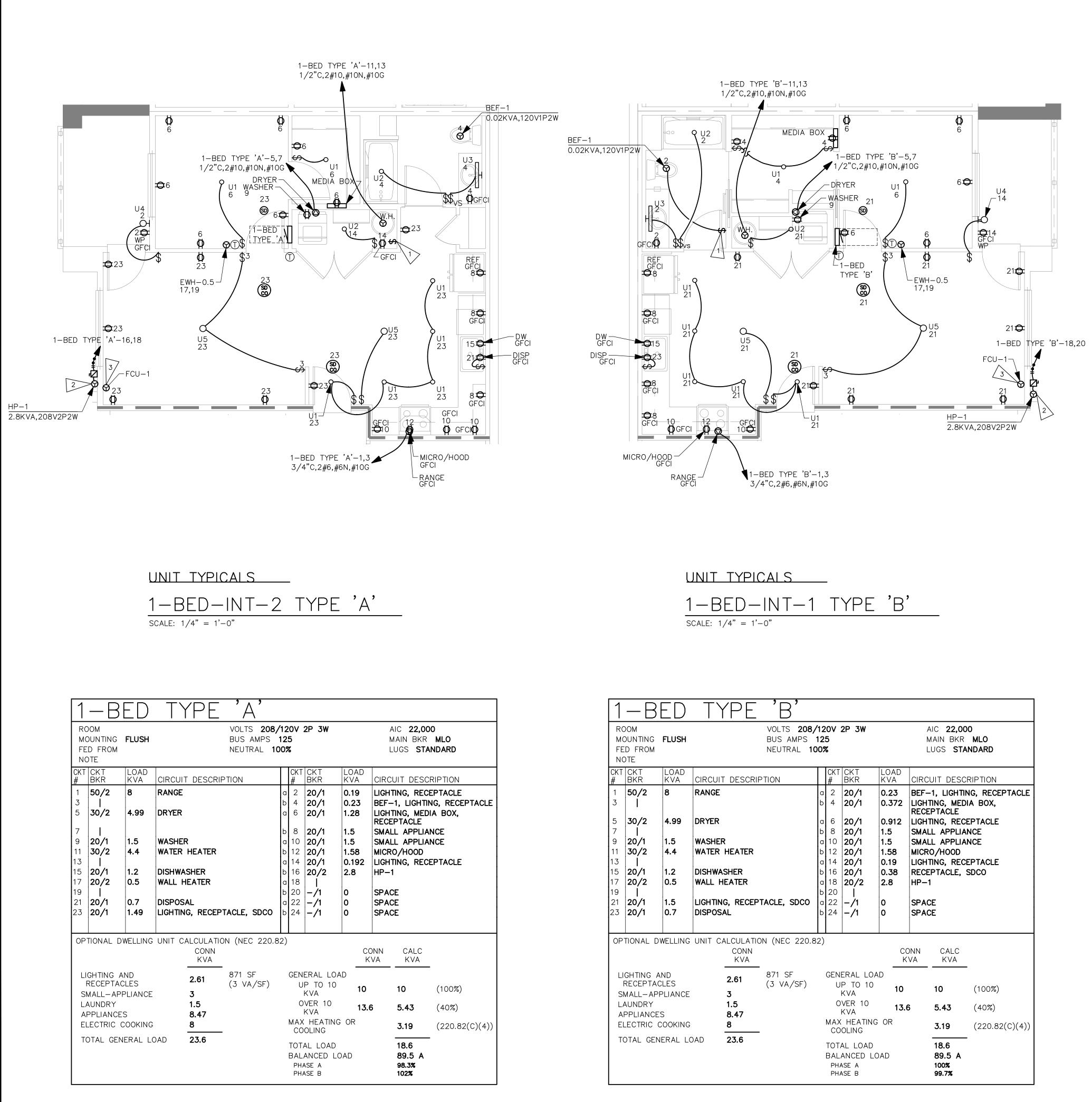


- ALL SWITCHES AND CONTRO 48" MAX TO CONTROL.
- 2. GENERAL OUTLETS MIN 18"
- 3. ALL SWITCHES/CONTROLS COUNTERTOPS 48" MAX.
- 4. ELECTRICAL SUB-PANELS I COMPLY WITH ABOVE REAC
- 5. SWITCHES FOR EXHAUST H GARBAGE DISPOSALS MUST ABOVE REACH RANGES. IN ON FACE OF CABINETS IF COMPLY.

ELECTRIC HEATERS					
EQUIP NO.	SERVICE	MOUNTING/	HEATING	ELECTRICAL	- BASIS OF DESIGN
LQUIF NO.	SERVICE	DISCHARGE	KW	VOLTAGE	DASIS OF DESIGN
EWH-1	BEDROOM	WALL	1	208V/1P	(1)
EWH-2	LIVING ROOM	WALL	1.5	208V/1P	(1)
NOTES: (1) BROAN, CADET OR EQUIVALENT.					

(2) PROVIDE REMOTE THERMOSTAT.

Y NOTES:	APARTMENT NOTES:	
TROLS – 15" MIN;	1. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL LOCAL AND NATIONAL CODES.	
8"AFF. S ABOVE	2. DEVICE BOXES ON OPPOSITE SIDES OF DEMISING WALLS SHALL BE IN SEPARATE STUD BAYS. PROVIDE BACKING EQUIVALENT TO LOWRY'S OUTLET BOX PADS. CONDUIT FROM ONE UNIT SHALL NOT PASS THROUGH STUDS OF A SHARED WALL(DOUBLE STUDS) FROM AN ADJACENT	
S IN UNITS MUST ACH RANGES. HOODS AND ST COMPLY WITH	UNIT(BRIDGING). 3. PROVIDE ARC-FAULT PROTECTION, TAMPER PROOF AND GFCI RECEPTACLES AS REQUIRED BY CODE AND LOCAL AHJ. ARC-FAULT PROTECTION MUST BE PROVIDED FOR	SCRIPTION REVISIONS
INSTALL SWITCHES F REQUIRED TO	CIRCUITS IN THE AREAS LISTED IN NEC 210.12(A). 4. PROVIDE SUFFICIENT DUPLEX RECEPTACLES TO MEET NEC 210.52.	ATE
	5. THERMOSTATS SHALL NOT INTERFERE WITH DOOR SWINGS.	NO.
	6. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS FOR KITCHEN APPLIANCES. COORDINATE ALL J-BOX LOCATIONS WITH APPLIANCE INSTALLATION INSTRUCTIONS PRIOR TO ROUGH-IN.	Z STE/L STE/L STE/L STE/L
	7. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CORD AND PLUG ASSEMBLY FOR EACH DISPOSER.	
	8. PROVIDE A DEDICATED 20 AMP CIRCUIT TO EACH UNIT BATHROOM RECEPTACLE. BATHROOM LIGHTS, FAN TO BE ON SAME CIRCUIT PER 210.11(C)(3) EXCEPTION.	SS/ONAL ENGINEER 08/30/24
	9. HOME RUNS AND LOOPS CONNECTING LIGHT FIXTURES, WIRING DEVICES, AND HVAC EQUIPMENT ON PLANS INDICATE CIRCUITING SCHEME. SEE TYPICAL PANEL SCHEDULES FOR ACTUAL CIRCUIT NUMBERS FOR TYPICAL APARTMENT.	
	10. LIGHTS WITHIN 3' HORIZONTAL OF SHOWER OR TUB TO BE WET LOCATION RATED AND HAVE FULLY ENCLOSED TRIMS. PROVIDE GFCI PROTECTION IF THE LUMINAIRE INSTALLATION MANUAL STATES IT IS REQUIRED.	ROBISON ENGINEERING, INC 19401 40TH AVE W., SUITE 302 LYNNWOOD, WA 98036 206364 3334 3TEL REI PROJECT NO.: 1219001 CONTACT: ARIK ESPINELI
	11. PROVIDE SMOKE DETECTORS AND CO ALARMS AS REQUIRED. DETECTORS AND ALARMS TO BE HARDWIRED AND PROVIDED WITH BATTERY BACKUP.	
	12. ELECTRICAL CONTRACTOR SHALL INSTALL RECEPTACLES AND TV, DATA/PHONE OUTLETS UNDER COMMON COVER PLATE WHERE POSSIBLE. PROVIDE AND INSTALL DIVIDERS AS REQUIRED FOR CABLE/POWER SEPARATION.	DRAWN: KL DESIGNED: MHS CHECKED: PSR APPROVED: JAY
	13. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND LAYOUTS OF ALL DEVICES.	DR/ DES APF
	14. ALL WALL PENETRATIONS SHALL BE CAULKED WITH APPROVED MATERIAL TO MAINTAIN THE FIRE RATING OF ALL WALLS AND FLOORS.	VG MA
	15. ALL CONDUIT SHALL BE INSTALLED IN NEAT SYMMETRICAL LINES HORIZONTAL OR PERPENDICULAR TO BUILDING COLUMNS AND ROOF LINES. CONDUITS SHALL BE GROUPED ON COMMON SUPPORTS WHEREVER POSSIBLE.	BUILDIN, YALLUP,
	16. REFERENCE MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.	PUX,
	17. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FUSE RATING WIRE SIZES AND DISCONNECT SIZES WITH EQUIPMENT SERVED ON THE JOB PRIOR TO INSTALLATION.	APARTMENT THSTSEF w.suite302 8036 3343
	18. SEE ARCHITECTURAL DRAWINGS AND ELEVATIONS FOR ADDITIONAL DETAILS AND CASEWORK DIMENSIONS.	APA 5TH Ew. Suit A 98036
	19. DEVICE LOCATIONS IN 1ST DWELLING/RESIDENT UNIT SHALL BE REVIEWED AND APPROVED BY OWNER PRIOR TO ROUGH-IN OF REMAINING UNITS	EIGHTS APAR E AND 5TH ST 19401 40TH AVE W. SUITE 302 LYNNWOOD, WA 98036 PHONE:(206)364-3343
	20. CONFIRM FINAL LOCATION OF HEATERS AND THERMOSTATS IN FIELD PRIOR TO ROUGH-IN	HEIGHTS SE AND 19401 40TH A LYNNWOOD, V PHONE:(206)3
		THE HEAD
		DB
		EROJEC
		DATE: 08/30/24
		SHEET TITLE: UNIT PLANS
		NOTES
		sheet no. E5.00



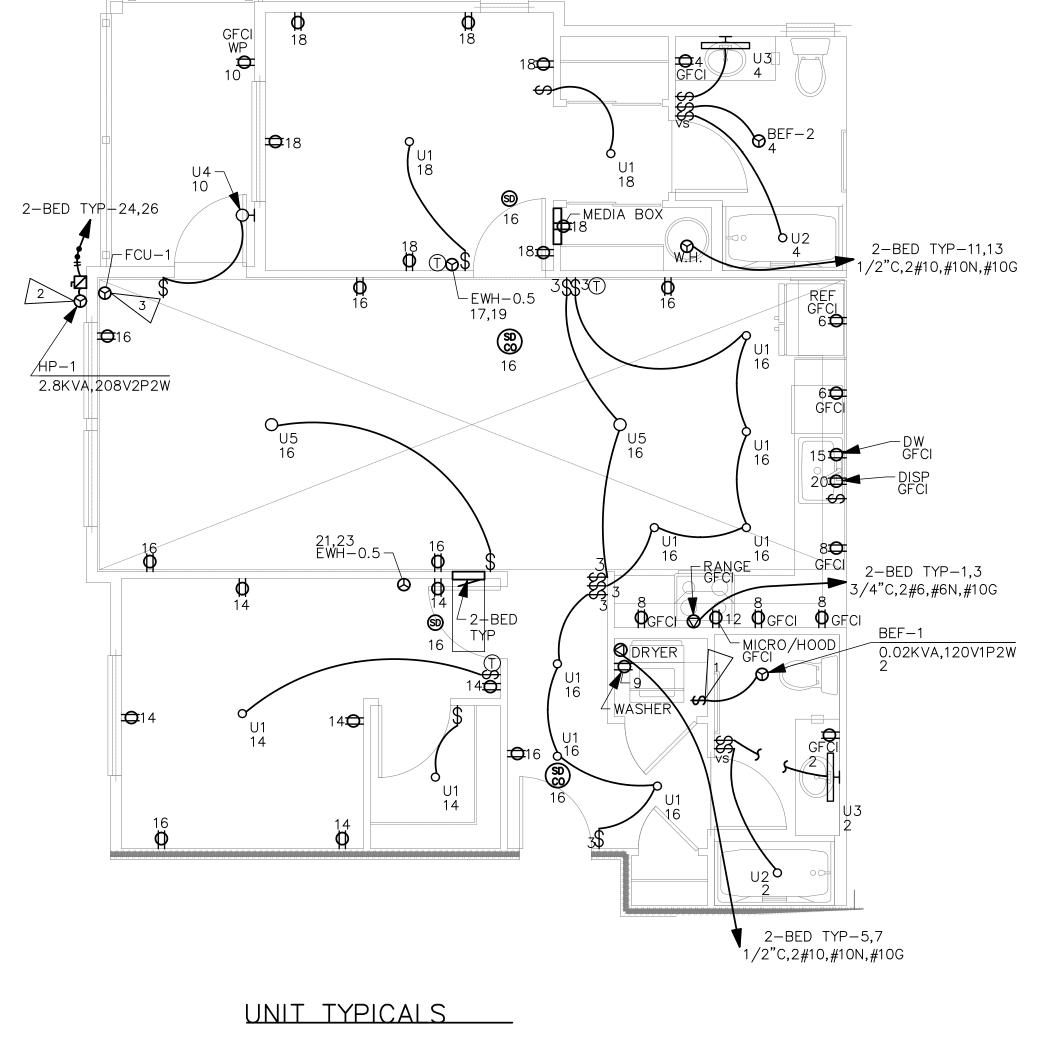
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UNIT TYPICALS	_
1-BED-INT-1	TYPE 'B'
SCALE: $1/4" = 1'-0"$	

					<u> </u>								
1	-B	ED	ΤΥ	PE	íΒí								
MC FE	OOM DUNTING D FROM DTE	FLUSH			VOLTS 208, BUS AMPS NEUTRAL 1 (12	5	2P 3W			١	AIC 22,00 Main BKR _UGS STA	MLO
CKT #	CKT BKR	LOAD KVA	CIRCUIT	DESCRIF	PTION		CKT #	CKT BKR)AD /A	CIRC	UIT DESC	RIPTION
1 3	50/2 	8	RANGE			a b	2 4	20/1 20/1	0.	23 372	LIGH	-1, LIGHTIN TING, MED EPTACLE	NG, RECEPTACLE IA BOX,
5 7 9 11	30/2 20/1 30/2	4.99 1.5 4.4	DRYER WASHER WATER H	FATER		а Р а	6 8 10 12	20/1 20/1 20/1 20/1	1.5		LIGH SMA SMA	TING, RECILL APPLIA	NCE
13 15 17 19	20/1 20/2	1.2 0.5	DISHWASI WALL HE	HER		a b a	12 14 16 18 20	20/1 20/1 20/2	0.	19 38	LIGH	TING, RECI EPTACLE, S	
21 23	1 20/1 20/1	1.5 0.7	LIGHTING, DISPOSAI		TACLE, SDCO	р Д	20 22 24		0		SPA(SPA(
0P	tional d'	WELLING	UNIT CAL	CULATIC CONN KVA	N (NEC 220.8	32)			1		DNN VA	CALC KVA	
F SM	GHTING A RECEPTAC MALL-API AUNDRY	CLES		2.61 3 .5	871 SF (3 VA/SF)		U	ERAL LOA P TO 10 KVA VER 10	۸D	10		10	(100%)
AI El	PPLIANCE LECTRIC (COOKING	3 5 	3.47 3			MAX	KVA (HEATING OLING	; OI	13. (R	Ď	5.43 3.19	(40%) (220.82(C)(4))
	DTAL GEN	ERAL LO	JAD	23.6			BAL PH	AL LOAD ANCED LO ASE A ASE B	DAD)		18.6 89.5 A 100% 99.7%	

	GENERAL NOTES:				
1.	COORDINATE FINAL LOCATION OF THERMOSTATS, SWITCHES, RECEPTACLES, DATA, PHONE, LIGHT FIXTURES AND J-BOXES WITH ARCHITECTURAL ELEVATIONS AND INTERIOR DESIGN PLANS PRIOR TO ROUGH-IN.				
2.	ADA UNITS SHALL HAVE HOOD CONTROLS INSTALLED IN THE FACE OF THE LOWER CABINET WORK.				SN
3.	PROVIDE TAMPER RESISTANT RECEPTACLES PER NEC 406.12.				ESCRIPTION REVISION
4.	ALL UNITS: PROVIDE SWITCH CONTROLLING GARBAGE DISPOSAL TO BE LOCATED ABOVE BACKSPLASH NEXT TO SINK OR ON COUNTER. SEE ARCHITECTURE.				DESCRI
5.	BATHROOM GFCI RECEPTACLES TO HAVE INTEGRAL NIGHTLIGHT.				DATE
6.	RECESSED CEILING LIGHT IN BATHROOM SHALL BE LED RATED FOR WET LOCATIONS W/ SHATTER PROOF LENS.				NO.
7.	ALL RECEPTACLES SHALL MEET REQUIREMENTS OF NEC ARTICLE 210.		ALCOLO I	STE/A	
8.	PROVIDE TELEPHONE & CABLE T.V. MEDIA TERMINATION ENCLOSURE (MEDIA BOX): PROVIDE LEVITON COMPACT MEDIA ENCLOSURE OR EQUVALENT IN WALL WITH TOP NO HIGHTER THAN 60" AFF WITH 120V RECEPTACLE ADJACENT.			WASKING READ STERED VAL ENGINE VAL ENGINE	ALE STR
9.	PROVIDE COMBINATION HARDWIRED 120VAC PHOTOELECTRIC SMOKE DETECTOR AND CARBON MONOXIDE DETECTOR WITH BATTERY-BACKUP			08/	30/24
••	DETECTOR SHALL BE MINIMUM 6' HORIZONTAL DISTANCE FROM PERMANENT COOKING APPLIANCE PER CFC 90.2.11.8. DETECTOR SHALL BE MINIMUM 3' HORIZONTAL DISTANCE FROM THE DOOR OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER PER CFC 90.2.11.8. PROVIDE INTERCONNECTION WIRING SUCH THAT ACTUATION OF ONE ALARM WILL ACTIVATE ALL ALARMS IN THE DWELLING	EN	GINEE 9401 40TH AV LYNNWOOI 206-364 REI PROJECT	ERING, VA 98036 VOL 129001 RIK ESPINELI	INC ²
••	UNIT. COORDINATE WITH AHJ ON INTERCONNECTING EACH DWELLING UNIT INTO THE FIRE ALARM SYSTEM FOR THE		S	L CC	~
••	BUILDING. COORDINATE WITH AHJ AS TO THE NUMBER AND LOCATION OF DEVICES PRIOR TO ROUGH—IN. DEVICES SHOWN ARE DIAGRAMMATIC.	N:	NED: MH	CKED: PSI	Roved: JA`
10.	DISHWASHER OUTLET SHALL BE ACCESSIBLE. RECEPTACLE SHALL BE LOCATED IN SPACE ADJACENT TO THE DISHWASHER.	DRAWN:	DESIGNE	CHECH	APPR
11.	PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT FOR THE LIVING ROOM.		МА		
	>FLAG NOTES		PUYALLUP,		
		BU	(ALL		
1.	INTERLOCK ERV/BEF TO ON/OFF SWITCH. PROVIDE PERMANENT LABEL SAYING, "WHOLE HOUSE VENTILATION. LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." ADHERE PERMANENT LABEL TO WALL ABOVE WALL SWITCH.	FMENTS	5TH ST SE PUY		
2.	COORDINATE OUTDOOR LOCATION OF INDIVIDUAL HP UNITS WITH MECHANICAL PLANS.	P A R	H S	SUITE 302	136 13
3.	POWERED FROM OUTDOOR UNIT.	V S	0 21	H AVE W.	D, WA 98(6)364-33
	AFCI/GFCI REQUIREMENTS FOR DWELLING UNITS:	HEIGHTS	SE AND	19401 40T	C PHONE:(206)364-3343
	ALL 15 AND 20A, 120V SINGLE PHASE CIRCUITS NOT INCLUDING THE BATHROOM SHALL BE AFCI PROTECTED (210.12).	$\Box \vdash \Box \land$	27th ave		NG, IN
	ALL DWELLING UNIT CIRCUITS IN BATHROOMS, GARAGES, OUTDOORS, KITCHENS, LAUNDRY AREAS,AND AREAS WITHIN 6' OF A SINK SHALL BE GFCI PROTECTED (210.8). . BATHROOM CIRCUIT TO BE GFCI PROTECTED VIA A GFCI RECEPTACLE, WHILE OTHER CIRCUITS SHALL BE PROTECTED AT THE BREAKER.	PROJECT: BRA	27TH		ENGINEERING,
	UTILIZE "DUAL FUNCTION" BREAKER WHEN BOTH AFCI AND GFCI PROTECTION IS	DATE	.: 08	/30/2	4
	REQUIRED.	UN		E: LAN DUL	
			t no. 5.(<u>ገ 1</u>	
		L `	J.(JI	

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2-BED TYP
SCALE: $1/4" = 1'-0"$

2	-B	ED	TYP								
МС	DOM DUNTING D FROM DTE	FLUSH		VOLTS 208, BUS AMPS NEUTRAL 1(12	5	2P 3W			AIC 22,00 Main BKR Lugs STA	MLO
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRI	PTION		CKT #	CKT BKR	LOAE KVA		CUIT DESC	RIPTION
1 3	50/2 	8	RANGE		a b	2	20/1 20/1	0.23 0.30	в ват	=	NG, RECEPTACLE LIGHTING,
7 9 11 13 15	30/2 20/1 30/2 20/1 20/2	4.99 1.5 4.4 1.2 0.5	DRYER WASHER WATER HEATER DISHWASHER WALL HEATER		а Ь а Ь а С	8 10 12 14 16	20/1 20/1 20/1 20/1 20/1 20/1 20/1	1.5 1.5 0.19 1.58 1.1 1.19 1.28	SMA SMA LIGH MICF LIGH LIGH	LL APPLIA LL APPLIA ITING, REC RO/HOOD ITING, REC ITING, REC ITING, MED	NCE EPTACLE EPTACLE EPTACLE
19 21 23 25	 20/2 -/1	0.5 0	WALL HEATER SPACE			22 24	20/1 20/1 20/2 	0.7 0.2 2.8	RECEPTACLE DISPOSAL SDCO HP-1		
0P ⁻	TIONAL D	WELLING	UNIT CALCULATIO CONN KVA	DN (NEC 220.8	2)		·		CONN KVA	CALC KVA	
F	GHTING A RECEPTAC MALL—APF	LES	3.52 3	1,173 SF (3 VA/SF)		U	ERAL LOA P TO 10 KVA	.D 1	0	10	(100%)
	UNDRY	5	1.5 8.47				VER 10 KVA	6	.49	2.6	(40%)
	DTAL GEN						CHEATING OLING	OR		3.51	(220.82(C)(4))
						BAL PH	AL LOAD ANCED LC ASE A ASE B)AD		16.1 77.4 A 98.8% 101%	-

	GENERAL NOTES:					
1.	COORDINATE FINAL LOCATION OF THERMOSTATS, SWITCHES, RECEPTACLES, DATA, PHONE, LIGHT FIXTURES AND J-BOXES WITH ARCHITECTURAL ELEVATIONS AND INTERIOR DESIGN PLANS PRIOR TO ROUGH-IN.					
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9.	PROVIDE COMBINATION HARDWIRED 120VAC PHOTOELECTRIC SMOKE DETECTOR AND CARBON MONOXIDE DETECTOR WITH			08/3	30/24	4
••	BATTERY-BACKUP DETECTOR SHALL BE MINIMUM 6' HORIZONTAL DISTANCE FROM PERMANENT COOKING APPLIANCE PER CFC 90.2.11.8. DETECTOR SHALL BE MINIMUM 3' HORIZONTAL DISTANCE FROM THE DOOR OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER PER CFC 90.2.11.8. PROVIDE INTERCONNECTION WIRING SUCH	EN	GINEE 19401 40TH AV LYNNWOOD 206-364	EXAMPLE A CONTRACT OF CONTRACT	INC	
	THAT ACTUATION OF ONE ALARM WILL ACTIVATE ALL ALARMS IN THE DWELLING UNIT. COORDINATE WITH AHJ ON			NO.: 1219-001 RIK ESPINELI		
	INTERCONNECTING EACH DWELLING UNIT INTO THE FIRE ALARM SYSTEM FOR THE BUILDING.		MHS	SR	JAΥ	
••	COORDINATE WITH AHJ AS TO THE NUMBER AND LOCATION OF DEVICES PRIOR TO ROUGH-IN. DEVICES SHOWN ARE DIAGRAMMATIC.		GNED: M	KED:	PROVED: J	
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11.	PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT FOR THE LIVING ROOM.	\bigcirc	$\forall \forall$			
#	>FLAG NOTES	JILDIN	LLUP,			
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2.	COORDINATE OUTDOOR LOCATION OF INDIVIDUAL HP UNITS WITH MECHANICAL PLANS.	PART	TH ST	SUITE 302	LYNNWOOD, WA 98036 PHONE:(206)364-3343	
3.	POWERED FROM OUTDOOR UNIT.		- - -	'H AVE W	D, WA 96 06)364-33	
	AFCI/GFCI REQUIREMENTS FOR DWELLING UNITS:		Ш С	19401 40T		ç
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	REQUIRED.		T TITL	E: LAN	<u>د ک</u>	
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			t no.)2		
		ر معدد ا	- • •			1

REQUIRED ELECTRIC VEHICLE CHARGING INFRASTRUCTURE WAC 427:

- WHERE PARKING IS PROVIDED, TEN PERCENT OF PARKING SPACES SHALL BE PROVIDED WITH ELECTRIC VEHICLE CHARGING INFRASTRUCTURE.
- ELECTRICAL ROOM(S) SERVING PARKING AREAS SHALL BE DESIGNED TO ACCOMMODATE THE ELECTRICAL EQUIPMENT AND DISTRIBUTION REQUIRED TO SERVE A MINIMUM OF 20 PERCENT OF THE TOTAL PARKING SPACES WITH 208/240 V 40-AMP ELECTRIC VEHICLE CHARGING INFRASTRUCTURE.
- MINIMUM ONE ACCESSIBLE PARKING SPACE SHALL BE SERVED BY ELECTRIC VEHICLE CHARGING INFRASTRUCTURE.

TOTAL NUMBER OF PARKING SPACES = 354AVERAGE NUMBER OF PARKING SPACES PER BUILDING = 354/8 = 45; $45 \times 0.2 = 9$ 5 OUTDOOR EV CHARGERS WITH INFRASTRUCTURE

4 CONDUITS TO FUTURE EV CHARGING LOCATIONS CAPACITY FOR 9 CHARGERS x $208V/1PH \times 40A = 74.9 \text{ KVA} = (208)A 3$

PHASE POWER @ 120/208V UTILIZING LOAD MANAGEMENT INFRASTRUCTURE, EV LOAD CAN BE REDUCED BY 50%. 208A/2 = 37.5KVA (104)A @ 208V 3 PHASE

PER WAC 427, ELECTRICAL INFRASTRUCTURE FOR EACH BUILDING SHALL BE DESIGNED TO ACCOMMODATE 104 AMPS OF EV ELECTRICAL LOAD.



THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, POWER COMPANY, PHONE COMPANY, INTERNET COMPANY, CABLE TV COMPANY, AND THE SATELLITE TV COMPANY TO ENSURE REQUIRED GROUNDING IS INSTALLED FOR EACH SYSTEM.

THIS SHALL BE DONE PRIOR TO AND DURING INSTALLATION OF FOUNDATION RE-BAR AND CONTINUE DURING THE CONSTRUCTION PHASES, TO ENSURE EACH SYSTEM HAS IT'S REQUIRED GROUNDING INSTALLED FOR PROPER OPERATION OF THE SYSTEM.

- 1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND PROVIDE WHAT IS REQUIRED TO DO THE FOLLOWING:
- 2. FOOTING GROUND RE-BAR COMES UP IN THE ELECTRICAL ROOM AND THE RE-BAR IS SNUGLY SECURED TO THE FOOTING RE-BAR.
- 3. THE MSB GROUNDING TIES TO THE FOOTING RE-BAR, COUNTERPOISE, BUILDING STEEL, AND WATER PIPING.
- 4. THE GROUND WIRE FOR THE COUNTERPOISE SHALL BE STRANDED, INSULATED WIRE IN CONDUIT UNTIL IT REACHES THE FIRST BAR OF THE COUNTERPOISE. BETWEEN THE COUNTERPOISE BARS IT SHALL BE A STRANDED BARE COPPER WIRE.

GENE	ERAL I	FEEDER SCHEDULE	
ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
$\langle 1 \rangle$	100	1-1/2"C,3#1/0 AL,#1/0 AL N,#6 AL G	POOL
2	125	2"C,3#2/0 AL,#2/0 AL N,#4 AL G	AM-B
3	200	2"C,3#3/0,#3/0N,#6G	A-HOUSE, B-HOUSE, C-HOUSE, D-HOUSE, E-HOUSE, F-HOUSE, G-HOUSE, H-HOUSE
4	400	(2)2–1/2"C,3#250kcmil AL,#250kcmil AL N,#1/0 AL G	AM-CT
5	400	(2)2–1/2"C,3#250kcmil AL,#250kcmil AL N,#1 AL G	AM-DISC
6	400	3–1/2"C,3#500kcmil,#500kcmil N,#2G	AM-A
$\langle 7 \rangle$	800	(3)3"C,3#400kcmil AL,#400kcmil AL N,#4/0 AL G	B-MC
8	1000	(4)3"C,3#350kcmil AL,#350kcmil AL N,#4/0 AL G	H-MC
(9)	1200	(4)3–1/2"C,3#500kcmil AL,#500kcmil AL N,#250kcmil AL G	A-MC, C-MC, E-MC, F-MC, G-MC
(10)	1600	(5)4"C,3#600kcmil AL,#600kcmil AL N,#500kcmil AL G	D-MC
(11)	125	1-1/2"C,2#2/O AL,#2/O AL N,#4 AL G	A-001, A-002, A-003, A-004, A-101, A-102, A-103, A-104, A-105, A-106, A-107, A-108, A-201, A-202, A-203, A-204, A-205, A-206, A-207, A-208, A-301, A-302, A-303, A-304, A-305, A-306, A-307, A-308, B-001, B-002, B-101, B-102, B-103, B-104, B-201, B-202, B-203, B-204, B-301, B-302, B-303, B-304, C-101, C-102, C-103, C-104, C-105, C-106, C-107, C-108, C-109, C-110, C-111, C-112, C-201, C-202, C-203, C-204, C-205, C-206, C-207, C-208, C-209, C-210, C-211, C-212, C-301, C-302, C-303, C-304, C-305, C-306, C-307, C-308, C-309, C-310, C-311, C-312, D001, D002, D003, D004, D005, D006, D101, D102, D103, D104, D105, D106, D107, D108, D109, D110, D111, D112, D201, D202, D203, D204, D205, D206, D207, D208, D209, D210, D211, D212, D301, D302, D303, D304, D305, D306, D307, D308, D309, D310, D311, D312, E001, E002, E003, E004, E101, E102, E103, E104, E105, E106, E107, E108, E201, E202, E203, E204, E205, E206, E207, E208, E301, E302, E303, E304, E305, E306, E307, E308, F001, F002, F003, F004, F101, F102, F103, F104, F105, F106, F107, F108, F201, F202, F203, F204, F205, F206, F207, F208, F301, F302, F303, F304, F305, F306, F307, F308, G101, G102, G103, G104, G105, G106, G107, G108, G109, G110, G111, G112, G201, G202, G203, G204, G205, G206, G207, G208, G209, G210, G211, G212, G301, G302, G303, G304, G305, G306, G307, G308, G309, G310, G311, G312, H101, H102, H103, H104, H105, H106, H107, H108, H201, H202, H203, H204, H205, H206, H207, H208, H301, H302, H303, H304, H305, H306, H307, H308

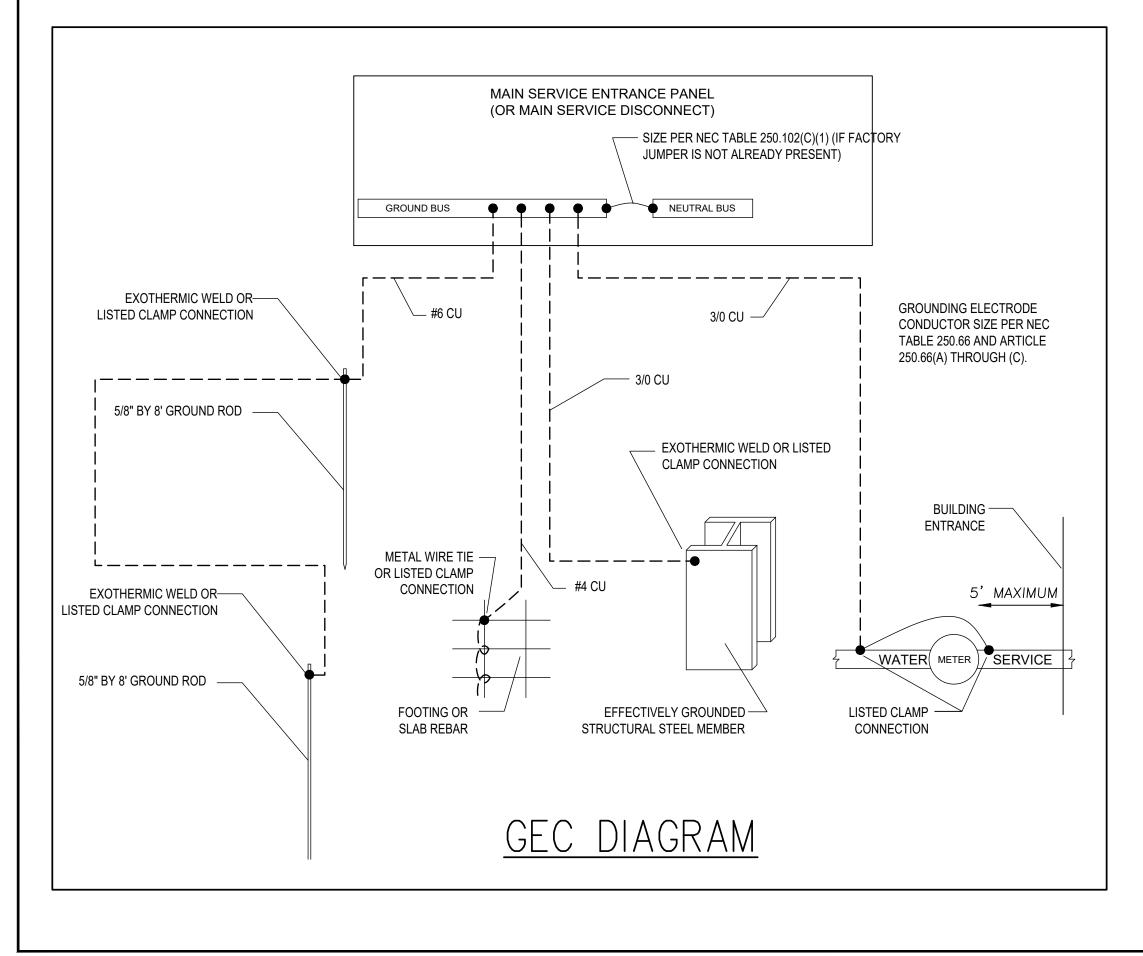
SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/O AND ABOVE FEEDER SCHEDULE NOTES:

CONDUIT FILL: * FOR CONDUIT SIZES 1-1/2" AND BELOW, FILL IS BASED ON EMT. * FOR CONDUIT SIZES 2" AND ABOVE, FILL IS BASED ON SCHEDULE 40 PVC. IN LOCATIONS APPROVED FOR THE PURPOSE, CONTRACTOR MAY USE MC CABLE. IN LOCATIONS APPROVED FOR THE PURPOSE CONTRACTOR MAY USE OTHER CONDUIT TYPES, INCLUDING RMC, FMC AND LFMC. CONTRACTOR REQUIRED

TO ENSURE CONDUIT FILL DOES NOT EXCEED 40%.

CONTRACTOR RESPONSIBLE TO ENSURE TERMINATION/LUG CAPACITY FOR ALL SCHEDULED FEEDERS.

XHHW/THHN/THWN SHALL BE USED FOR INSULATION OF THE CONDUCTOR.



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COORDINATION AND ARC FLASH STUDIES:

IMMEDIATELY UPON SELECTION OF ACTUAL EQUIPMENT BEING PROVIDED FOR THE PROJECT, THE ELECTRICAL CONTRACTOR SHALL PERFORM AN ARC FLASH ANALYSIS AND COORDINATION STUDY ON THE STANDBY DISTRIBUTION BASED ON ACTUAL EQUIPMENT TO BE PROVIDED, CONDUCTOR TYPES/SIZES/LENGTHS, ETC. COORDINATION SHALL BE CONFIRMED BASED ON FAULT NUMBERS SHOWN ON THIS DRAWING.

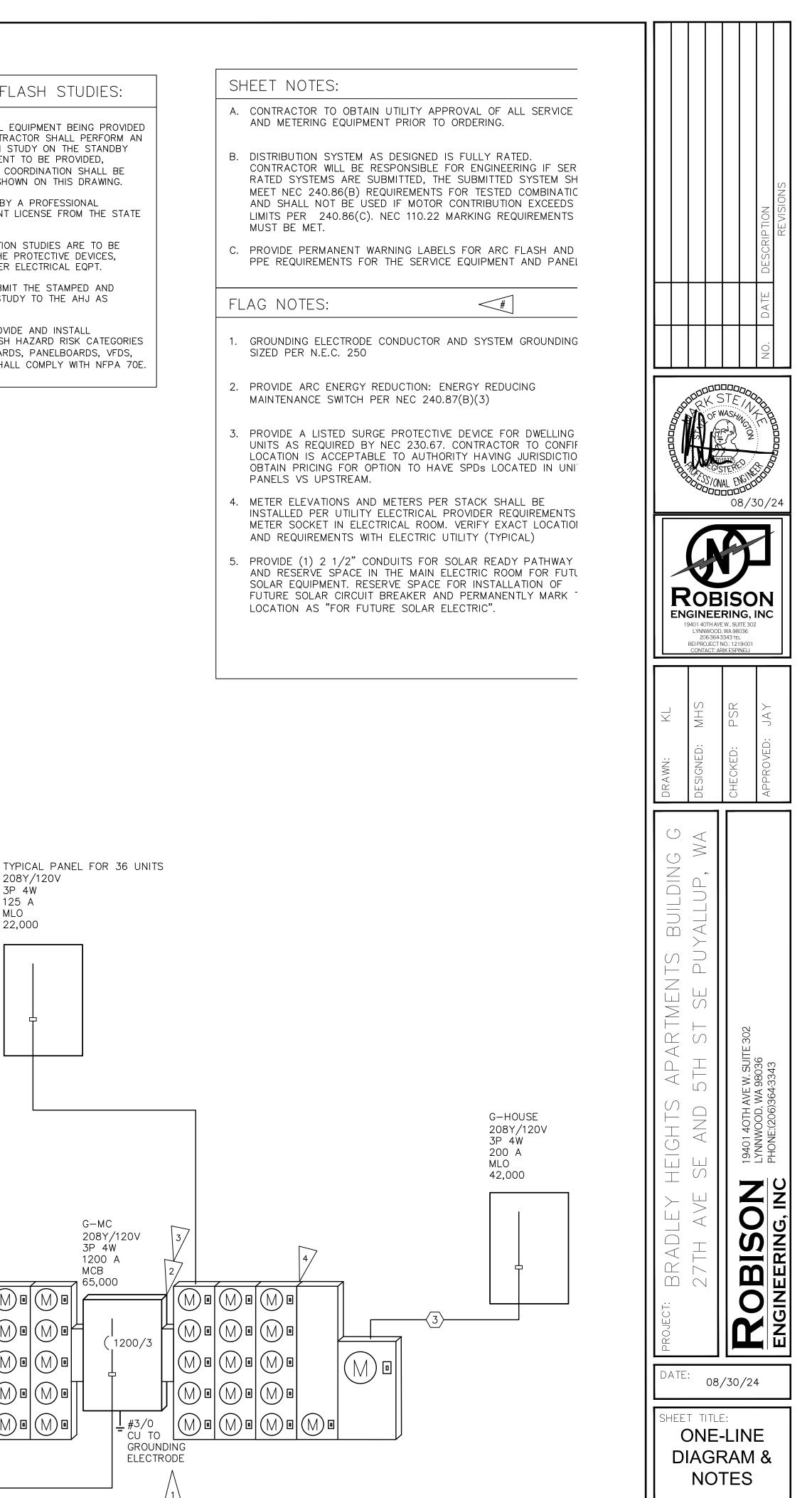
STUDIES SUBMITTED SHALL BE STAMPED BY A PROFESSIONAL ELECTRICAL ENGINEER HOLDING A CURRENT LICENSE FROM THE STATE OF WA.

PRELIMINARY ARC FLASH AND COORDINATION STUDIES ARE TO BE SUBMITTED WITH THE SUBMITTALS FOR THE PROTECTIVE DEVICES, PANELBOARDS, SWITCHBOARDS, AND OTHER ELECTRICAL EQPT.

THE ELECTRICAL CONTRACTOR SHALL SUBMIT THE STAMPED AND SIGNED ARC FLASH AND COORDINATION STUDY TO THE AHJ AS REQUIRED.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PERMANENT LABELS INDICATING ARC FLASH HAZARD RISK CATEGORIES ON ALL DISTRIBUTION POINTS (SWITCHBOARDS, PANELBOARDS, VFDS, DISCONNECT SWITCHES, ETC). LABELS SHALL COMPLY WITH NFPA 70E.

208Y/120V 3P 4W 125 A MLO 22,000



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TO UTILITY XFMR -

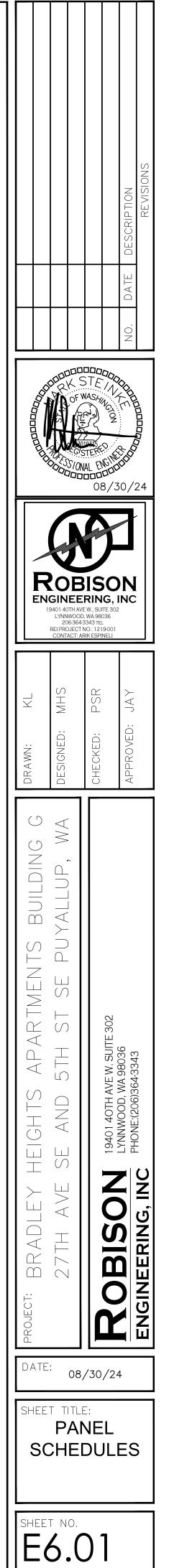
ONE-LINE DIAGRAM

HEET NO. E6.00

DEVICE	FAULT	AIC	SC			FROM				DER	
DEVICE	TAULI	RATING	FAL		DEVICE	FAU	JLT	SI.		LENGTH	- <u>M</u> (
XFMR	64,512	N/A	60,30	0							4,21
A/B/C A-MC	32,461	65,000	30,318		XFMR	60,30	0		00kcm	il150'	2,14
A-HOUSE	22 509	42,000	21,485		A/B/C A-MC	30,31	8	AL #3/0		21'	1,02
B-MC	43,399	65,000	41,135	5 >	XFMR	60,30		(3)#4	00kcm		2,26
B-HOUSE	28.836	42,000	27,88		A/B/C B-MC	41,13	5	AL #3/0		18'	956
C-MC	45,208	65,000	42,184	4 >	XFMR A/B/C	60,30		1	00kcm		3,02
C-HOUSE	29,060	42,000	27,82		с-мс	42,18	4	#3/0		19'	1,23
AM-CT	35,911	42,000	35,07	7 >	XFMR D/CLUB	60,30			50kcm		834
AM-DISC	26,938	42,000	26,40		AM-CT	35,07	7		50kcm	il 23'	537
AM-A	20,059	22,000	19,654	4	AM-DISC	26,40	1	#500	cmil	33'	405
AM-B	5,305	22,000	5,134		AM-A	19,65		#2/0		108'	171
POOL	14,058	22,000	13,842		AM-A	19,65			AL-1		216
D-MC	25,827	65,000	23,50	~	XFMR D/CLUB	60,30	0	(5)#6 AL	00kcm	il 311'	2,32
D-HOUSE	19,593	42,000	18,23		D-MC	23,50	0	#3/0		19'	1,36
E-MC	44,735	65,000	42,57	8)	XFMR E/H	60,30	0	(4)#5 AL	00kcm	il66'	2,15
E-HOUSE	28,149	42,000	27,30	9 6	E-MC	42,57	8	4L #3/0		21'	840
H-MC	37,230	65,000	35,44		XFMR E/H	60,30		(4)#3	50kcm		1,78
H-HOUSE	21,037	42,000	20,47	5	H-MC	35,44	7	AL #3/0		30'	562
F-MC	30,384	65,000	28,32		XFMR F/G	60,30		(4)#5	00kcm		2,0
F-HOUSE	18,612	42,000	17,763	3 6	F-MC	28,32	9	AL #3/0		31'	849
G-MC	49,103	65,000	46,216		XFMR F/G	60,30		1	00kcm		2,88
G-HOUSE	31,135	42,000	29,99					AL			
VOLT		DROP .		EDU	BRANCH		UIT	#3/0		19' TOTAL TAGE DROP	
	AGE voltage	FEEDER DROP W.	SCH	EDU	ILE	CIRCL	VIT WI	RE ZE		TOTAL	
<i>DEVICE</i> XFMR		FEEDER DROP W.	IRE	EDU	ILE branch	CIRCL	VIT WI	TRE		TOTAL	
DEVICE	VOLTAGE	FEEDER DROP W. S. (4)#	IRE	EDU Max	ILE branch	CIRCL	VIT WI	TRE	VOL1	TOTAL TAGE DROP	
DEVICE XFMR A/B/C A-MC	<i>VOLTAGE</i> 0% 1.61%	FEEDER DROP W. S. (4)# AL	I <i>RE</i> IZE 500kcmi	EDU MAX -	ILE branch voltage	CIRCL	71T W1 S1 -	TRE	<i>VOLT</i> 0% 1.61%	TOTAL 'AGE DROP	
DEVICE XFMR A/B/C	<i>VOLTAGE</i> 0% 1.61%	FEEDER DROP W. S. S. (4)#3 43/0 (3)#4 (3)#4	I <i>RE</i> IZE 500kcmi	<i>EDU</i> <i>MAX</i> - 1.06%	ILE branch	CIRCL	TIT WI SI	TRE	<i>VOL1</i>	TOTAL 'AGE DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE	<i>VOLTAGE</i> 0% 1.61% 1.93% 0.51%	FEEDER DROP W. S. (4)#3 (4)#3	I <i>RE</i> IZE 500kcmi) 400kcmi	<i>EDU</i> <i>MAX</i> - 1.06%	ILE branch voltage (ckt 19)	CIRCL	<i>VIT</i> <i>WI</i> <i>SI</i> – – #10	TRE	<i>VOLT</i> 0% 1.61% 2.99%	TOTAL AGE DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC	<i>VOLTAGE</i> 0% 1.61% 1.93% 0.51%	FEEDER DROP W. S. (4)#3 #3/0 (3)#4 AL #3/0	I <i>RE</i> IZE 500kcmi) 400kcmi	<i>EDU</i> <i>MAX</i> – 1.06%	ILE branch voltage (ckt 19)	CIRCL	<i>TIT</i> <i>WI</i> <i>SI</i> - #10 -	TRE	<i>VOLT</i> 0% 1.61% 2.99% 0.51%	TOTAL TAGE DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE	<i>VOLTAGE</i> 0% 1.61% 1.93% 0.51% 0.79% 0.74%	FEEDER DROP W. S. (4)#3 (3)#4 AL #3/0 (4)#3 (4)#3 (4)#4 (4)#4 (4)#4 (4)#4 (4)#4 (4)#4 (4)#4 (4)#4 (4)#4	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi	<i>EDU</i> <i>MAX</i> – 1.06% 1.4% ((ILE branch voltage (ckt 19)	CIRCL	<i>VIT</i> <i>WI</i> <i>SI</i> - #10 - #10	TRE	<i>VOLT</i> 0% 1.61% 2.99% 0.51% 2.18%	TOTAL AGE DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC	<i>VOLTAGE</i> 0% 1.61% 1.93% 0.51% 0.79% 0.74%	FEEDER DROP W.	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi	<i>EDU</i> <i>MAX</i> – 1.06% 1.4% ((ILE branch voltage (ckt 19) ckt 3)	CIRCL	<i>VIT</i> <i>WI</i> <i>SI</i> - #10 - #10 -	TRE	<i>VOLT</i> 0% 1.61% 2.99% 0.51% 2.18% 0.74%	TOTAL AGE DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR	<i>VOLTAGE</i> 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91%	FEEDER DROP W. 0 (4) #3 43 / 0 (3) #4 43 / 0 (4) #3 43 / 0 (4) #3 43 / 0 (4) #3 43 / 0 (4) #3 43 / 0 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (4) #3 (5) (5) (5) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi	<i>EDU</i> <i>MAX</i> - 1.06% 1.4% (0 1.56%	ILE branch voltage (ckt 19) ckt 3)	CIRCL	<i>TIT</i> <i>WI</i> <i>SI</i> - #10 - #10 - #10	TRE	<i>VOLT</i> 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48%	TOTAL 'AGE DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB	VOLTAGE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.35%	FEEDER DROP W. 0 (3) 43/0 (3) 43/0 (4) 43/0 (3) 41 (4) 43/0 (3) 41 (4) 42 (3) 43/0 (3) 41 (4) 42 (4) 43/0 (4) 41 (4) 42 (4) 43/0 (4) 43/0 (4) 41 (4) 42 (4) 43/0 (4) 43/0 (4) 43/0 (4) 41 (4) 42 (4) 43 (4) 44 (4) 45 (4) 46 (4) 47 (4) 48 (4) 49 (4) 41 (4) 42 (4) 43 (4) 44 (4)	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi	<i>EDU</i> <i>MAX</i> – 1.06% 1.4% ((1.4% () 1.56%	ILE branch voltage (ckt 19) ckt 3)	CIRCL	<i>TIT</i> <i>WI</i> <i>SI</i> - #10 - #10 - #10 -	TRE	<i>VOLT</i> 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0%	TOTAL 'AGE' DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT	VOLTAGE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.35%	FEEDER DROP W. Image: Constraint of the strength of the strengt of the strength of the strengt of the streng	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi 250kcmi	<i>EDU</i> <i>MAX</i> - 1.06% (1.4% (1.4% (1.56% (-	ILE branch voltage (ckt 19) ckt 3)	CIRCL	<i>VIT</i> <i>WISI</i> - #10 - #10 - #10 -	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35%	TOTAL AGE DROP	
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-A AM-B	VOLTAGE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.35% 0.35% 0.35% 0.85% 2.33%	FEEDER DROP W. S. (4) #3 (4) #3 (3) # (3) # (4) #3 (3) # (4) #3 (3) # (4) #3 (3) # (4) #3 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi 250kcmi	<i>EDU</i> <i>MAX</i> - 1.06% 1- 1.4% (0 1- 1.56% - 1.56% 2.18%	<i>ILE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) СКТ 3) (СКТ 7) (СКТ 41) (СКТ 33,35		<i>TIT WI SI</i> - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 12 <i>H</i> 8	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 2.79% 4.51%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-A AM-B POOL	VOLTAGE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.55% 0.55% 0.85% 2.33% 0.89%	FEEDER DROP W. Image: Constraint of the strength of the strengt of the strength of the strengt of the streng	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi 250kcmi) 250kcmi) 250kcmi	EDU MAX - 1.06% 1- 1.4% (0 1- 1.56% - 1.56% - 1.56% - 1.95% 0.28%	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) СКТ 3) (СКТ 7) (СКТ 7)		<i>TIT WI SI</i> - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 12 <i>H</i> 12 <i>H</i> 12 <i>H</i> 12	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 2.79% 4.51% 1.18%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-A AM-B POOL D-MC	VOLTACE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.55% 0.85% 2.33% 0.89% 2.76%	FEEDER DROP W Image: Constraint of the strength of the strengt of the strength of the strengt of the strenge	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi 250kcmi) 250kcmi) 250kcmi	EDU MAX - 1.06% 1.06% 1.4% (0) 1.56% - 1.56% - 1.56% 0.28% 0.28% 1-	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) СКТ 3) (СКТ 7) (СКТ 41) (СКТ 33,35 (СКТ 1)		<i>TIT WI SI</i> - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 12 <i>H</i> 12 <i>H</i> 12 - <i>H</i> 12 -	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-A AM-B POOL D-MC D-HOUSE	VOLTAGE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.55% 0.35% 0.85% 2.33% 0.89% 2.76% 3.01%	FEEDER DROP W. Image: Constraint of the strength of the strengt of the strength of the strengt of the streng	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi 250kcmi) 250kcmi) 250kcmi	EDU MAX - 1.06% 1.4% (0) 1.4% (0) 1.56% - 1.56% - 1.56% 0.28% 1.52% 1.52%	<i>ILE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) СКТ 3) (СКТ 7) (СКТ 41) (СКТ 33,35		<i>TIT WI SI</i> - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 12 <i>H</i> 1	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.35% 2.79% 4.51% 1.18% 2.76% 4.53%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-A AM-B POOL D-MC	VOLTACE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.55% 0.85% 2.33% 0.89% 2.76%	FEEDER DROP W Image: Constraint of the strength of the strengt of the strength of the strengt of the strenge	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi 250kcmi) 250kcmi) 250kcmi	EDU MAX - 1.06% 1.06% 1.4% (0) 1.56% - 1.56% 0.28% 0.28% 1.52% 0.28% 1.52% 0.28%	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) СКТ 3) (СКТ 7) (СКТ 41) (СКТ 33,35 (СКТ 1)		<i>TIT WI SI</i> - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 10 - <i>H</i> 12 <i>H</i> 12 <i>H</i> 12 - <i>H</i> 12 -	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-DISC AM-A AM-B POOL D-MC D-HOUSE XFMR E/H E-MC	VOLTAGE 0% 1.61% 1.93% 0.51% 0.79% 0.79% 0.74% 0.91% 0% 0.35% 0.35% 0.35% 0.85% 2.33% 0.89% 2.76% 3.01% 0% 0.64%	FEEDER DROP W Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Compari	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi) 250kcmi) 0 AL 1 600kcmi	EDU MAX - 1.06% 1.06% 1.4% 1.56% - 1.56% - 1.56% - 1.56% - 1.56% - 1.56% - 1.56% - 1.56% - 1.56% - 1.56% - - 1.56% - $--$	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) (СКТ 7) (СКТ 7) (СКТ 41) (СКТ 33,35 (СКТ 1) (СКТ 21)		<i>TIT WI SI</i> - <i>WI SI</i> - <i>WI</i> - <i>WI WI</i>	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76% 4.53% 0% 0.64%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-A AM-B POOL D-MC D-HOUSE XFMR E/H	VOLTAGE 0% 1.61% 1.93% 0.51% 0.79% 0.79% 0.74% 0.91% 0% 0.35% 0.35% 0.35% 0.85% 2.33% 0.89% 2.76% 3.01% 0% 0.64%	FEEDER DROP W Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Comparison of the structure Image: Compare	<i>IRE</i> <i>IZE</i> 500kcmi) 400kcmi) 500kcmi) 250kcmi) 250kcmi) 0 AL 1 600kcmi	EDU MAX - 1.06% 1.06% 1.4% 0.28% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 0.28% 1.52% 1.5	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) СКТ 3) (СКТ 7) (СКТ 41) (СКТ 33,35 (СКТ 1)		<i>TIT WI SI</i> - <i>WI SI</i> - <i>WI</i> - <i>WI WI</i>	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76% 4.53% 0%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-DISC AM-DISC AM-A AM-B POOL D-HOUSE XFMR E/H E-MC E-HOUSE	VOLTACE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.35% 0.35% 0.35% 0.85% 2.33% 0.89% 2.76% 3.01% 0% 0.82% 0.97%	FEEDER DROP W Image: Constraint of the strength of the strengt of the strength of the strengt of the strenge	<i>IRE</i> <i>IZE</i> 500kcmi 500kcmi 500kcmi 250kcmi 250kcmi 0 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1	EDU MAX - 1.06% 1.06% 1.4% 1.4% 0.28% 0.28% 0.28% 1.52% 0.28% 1.52% 1.52% 0.1% 1.52% 1.5%	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) (СКТ 7) (СКТ 7) (СКТ 7) (СКТ 33,35 (СКТ 1) (СКТ 21) СКТ 19)		IT IT ISI - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #12 #12 #10 - #110 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - - #10	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76% 4.53% 0% 0.64% 1.92% 0.97%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-A AM-DISC AM-A AM-B POOL D-MC D-HOUSE XFMR E/H E-MC H-MC H-HOUSE	VOLTACE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.85% 2.33% 0.89% 2.76% 3.01% 0% 0.64% 0.82% 0.97% 1.11%	FEEDER DROP W Image: Constraint of the strength of the strengt of the strength of the strengt of the strenge	<i>IRE</i> <i>IZE</i> 500kcmi 500kcmi 500kcmi 250kcmi 250kcmi 0 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1	EDU MAX - 1.06% 1.06% 1.4% 1.4% 0.28% 0.28% 0.28% 1.52% 0.28% 1.52% 1.52% 0.1% 1.52% 1.5%	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) (СКТ 7) (СКТ 7) (СКТ 41) (СКТ 33,35 (СКТ 1) (СКТ 21)		IIT IIT IIT III III III III IIII IIII IIII IIII IIII IIII IIII IIIII IIIII IIIII IIIIII IIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.35% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76% 4.53% 0% 0.64% 1.92% 0.97% 2.21%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-MC C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-DISC AM-DISC AM-A AM-B POOL D-HOUSE XFMR E/H E-MC E-HOUSE	VOLTACE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.35% 0.35% 0.35% 0.85% 2.33% 0.89% 2.76% 3.01% 0% 0.82% 0.97%	FEEDER DROP W Image: Constraint of the strength of the strengt of the strength of the strengt of the strenge	<i>IRE</i> <i>IZE</i> 500kcmi 500kcmi 500kcmi 250kcmi 250kcmi 0 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1 AL 1	EDU MAX - 1.06% 1.06% 1.06% 1.06% 1.4% 0.28% 1.52% 0.28% 1.52% 1.52% 1.52% 1.1% 0.28% 1.1% 0.28% 1.1% 0.2% 0.28% 1.1% 0.2	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) (СКТ 7) (СКТ 7) (СКТ 7) (СКТ 33,35 (СКТ 1) (СКТ 21) СКТ 19)		IT IT IT ISI - #10 - #10 - #10 - #10 - #10 - #10 - #12 #8 #12 #8 #12 #8 #12 #8 #12 #8 #12 - #10 - #10 - #10 - #10	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76% 4.53% 0% 0.64% 1.92% 0.97%		
DEVICE XFMR A/B/C A-MC A-HOUSE B-MC B-HOUSE C-HOUSE XFMR D/CLUB AM-CT AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-DISC AM-A AM-DISC AM-A AM-DISC AM-A AM-DISC AM-A AM-B POOL D-MC B-HOUSE XFMR E/H E-MC H-MC H-MC	VOLTACE 0% 1.61% 1.93% 0.51% 0.79% 0.74% 0.91% 0% 0.35% 0.35% 0.85% 2.33% 0.85% 2.76% 3.01% 0% 1.11% 0% 1.11% 0% 1.6%	FEEDER DROP W Image: Constraint of the strength of the strengt of the strength of the strengt of the strenge	IRE IZE 500kcmi 500kcmi 0 400kcmi 0 500kcmi 0 250kcmi 0 250kcmi 0 250kcmi 0 250kcmi 0 250kcmi 0 500kcmi 0 500kcmi 0 500kcmi 0 500kcmi	EDU MAX - 1.06% 1.06% 1.4% (0) 1.56% - 1.56% 0.28% 0.28% 0.28% 1.52% 0.28% 1.1% (0) - 1.1% (0) - - 1.1% (0) -	<i>ГLE</i> <i>BRANCH</i> <i>VOLTAGE</i> (СКТ 19) (СКТ 7) (СКТ 7) (СКТ 7) (СКТ 33,35 (СКТ 1) (СКТ 21) СКТ 19)		IT IT ISI - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #12 #8 #12 - #10 - #10 - #10 - #10 - #10 - #10 - #10 - #10	TRE	VOLT 0% 1.61% 2.99% 0.51% 2.18% 0.74% 2.48% 0% 0.35% 0.35% 0.35% 0.57% 2.79% 4.51% 1.18% 2.76% 4.53% 0% 0.64% 1.92% 0.97% 2.21%		

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M(FE	OOM DUNTING D FROM DTE		E		VOLTS 208 BUS AMPS NEUTRAL 1	20	0	3P 4W	I		AIC 42,00 MAIN BKR LUGS STA	MLO
CKT #	CKT BKR	LOAD KVA	CIRCUIT	DESCRIP	TION		CKT #	CKT BKR	LOAD KVA	CIRC	CUIT DESC	RIPTION
1 3 5	20/2 -/1	1 0	EWH SPACE			a b c	24	50/2 50/2	8.3 8.3		CHARGER CHARGER	
7 9 11	20/1 20/1 20/1	0.283 0.283 0.294	LIGHTIN LIGHTIN LIGHTIN	G G		a b c	10 12	 50/2 	8.3		CHARGER	
13 15 17 19	20/1 -/1 20/1 20/1	0.18 0 0.18 0.128	RECEPT SPACE RECEPT LIGHTIN	ACLE		b c	16	50/2 50/2	8.3 8.3		CHARGER EV CHARG	ER
21 23 25	20/1 20/1 20/1 -/1	0.128 0.5 0.144 0	FACP SITE LIC			b c	22 24	50/2 50/2	8.3 8.3		EV CHARG EV CHARG	
27 29 31	-/1 -/1 -/1	0 0 0	SPACE SPACE SPACE			b c	28	50/2	8.3		EV CHARG	
33 35 37 39 41	-/1 -/1 -/3	0 0 0	SPACE SPACE SOLAR	BREAKER		c a b	36 38	-/1	0.05 0 0 0 0	CAR SPA SPA SPA SPA	CE CE	/ER
	•		CONN KVA	CALC KVA					CC		CALC KVA	
R	GHTING ECEPTACI / LOAD	les O	.13 0.36 6.4	1.42 0.36 41.5	(125%) (50%>10) (63%)		NON	TINUOU: CONTINI TING	S 0.5 UOUS 0.0 1		0.625 0.05 1	(125%) (100%) (100%)
							BAL LO PH/ PH/		D 3–PHASE		45 125 A 112% 95.7% 92.5%	-

	TING SURFAC FROM XFMR F		В	OLTS 208Y/120V US AMPS 1200 EUTRAL 100%	3P 4W			AIC 65,000 Main BKR 1 2 LUGS STAND		
кт	BREAKER TRIP/POLES	CIRCUIT DESCR			LOAD KV	1	FEEDER I	RACEWAY AND	CONDUCTOR	RS
C# 123456789012345678901223456789012334567890123345678901233456789012334567890123345		CIRCUIT DESCR PANEL G101 PANEL G102 PANEL G103 PANEL G103 PANEL G104 PANEL G105 PANEL G106 PANEL G107 PANEL G107 PANEL G109 PANEL G109 PANEL G109 PANEL G110 PANEL G111 PANEL G112 PANEL G201 PANEL G203 PANEL G203 PANEL G204 PANEL G204 PANEL G205 PANEL G205 PANEL G206 PANEL G207 PANEL G206 PANEL G207 PANEL G207 PANEL G207 PANEL G207 PANEL G207 PANEL G207 PANEL G207 PANEL G207 PANEL G207 PANEL G203 PANEL G207 PANEL G203 PANEL G207 PANEL G307 PANEL G307 PAN	<u>IPTION</u>	A 16.6 17.1 16.2 16.1 15.7 16.1 15.7 16.1 16.6 17.1 16.6 17.1 16.2 16.1 16.2 16.1 16.2 16.1 15.7 16.1 16.2 16.1 16.6 17.1 16.6 17.1 16.6 17.1 16.6 17.1 16.2 16.3 16.2 16.3 16.2 16.1 16.6	$\begin{array}{r c c c c c c c c c c c c c c c c c c c$	C 16.1 16.2 16.3 16.2 16.3 16.2 16.3 16.2 16.1 16.2 16.1 16.2 16.3 16.2 16.1 16.2 16.1 16.6 16.1 16.6 16.1 16.6 16.1 15.7 16.3 16.2	1-1/2"C, 1-1/	RACEWAY AND 2#2/0 AL,#2/ 2#2/0 AL,#2/	0 AL N,#4 0 AL N,#4	AL G AL <t< td=""></t<>
LIGH	TING AND RE	MILY DWELLING CEPTACLES E	NECTED KVA CALCULATION KVA 104 108 54 305	(NEC 220.84)	D WE DEM	NECTED LLING U AND FA	LOAD	2#2/0 AL,#2/ /0,#3/0N,#6G	KVA 953 36 (30%) 286	AL G
LAU APP	LIANCES	\frown	200	(100%)						
LAU APP ELE(182		JSE LOAI	1.3				
LAU APP ELEC HEA LIGH REC	LIANCES CTRIC COOKIN	CONN KV 1.13 0.36 66.4		(125%) (50%>10) (63%)	NON HEA TOT	ITINUOUS ICONTINU TING AL HOUS		CONN KVA 0.5 0.05 1	CALC KVA 0.625 0.05 1 45	(125%) (100%) (100%)
LAU APP ELEC HEA LIGH REC	LIANCES CTRIC COOKING TING TING EPTACLES	CONN KV 1.13 0.36	A CALC KV 1.42 0.36	(125%) (50%>10) (63%)	NON HEA	ITINUOUS ICONTINU TING AL HOUS	UOUS	0.5	0.625 0.05 1	- (125%) (100%)



	GENERAL NOTES	
1.	REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).	
2.	ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.	
3.	CODES: COMPLETE INSTALLATION OF THE PLUMBING SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.	
4.	 PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL EQUIPMENT, PIPING, ETC. A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL. B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK. C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM. D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. 	
5.	PLUMBING CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL PLUMBING EQUIPMENT WITHIN THE STRUCTURE.	
6.	ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.	
7.		P-3 P-3
8.	EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.	
9.	PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.	
10.	SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.	
11.	LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.	
12.	CABLE TRAYS: PIPING INSTALLED ADJACENT TO ELECTRICAL CABLE TRAYS SHALL ALLOW MINIMUM ACCESS OF 6" ABOVE AND TO THE SIDE OF CABLE TRAYS.	
13.	MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL	
14.	LOAD. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.	<u>HWCP-1</u>
СС	ORDINATION REQUIREMENTS	W
<u> </u>	IRRIGATION SYSTEM: COORDINATE IRRIGATION WATER DEMAND, MINIMUM WATER PRESSURE	
2.	REQUIREMENTS & CONTROL CABINET LOCATIONS WITH IRRIGATION CONTRACTOR. GAS: CONTRACTOR/GAS COMPANY SHALL FINALIZE GAS METER AND GAS SERVICE LOCATIONS.	—IW SS
3.	INSTALL SEISMIC GAS SHUT OFF VALVE PER GAS COMPANY REGULATIONS. UTILITIES: COORDINATE WITH SITE UTILITY CONTRACTOR AND CIVIL DRAWINGS FOR UTILITY	
4.	CONNECTIONS AND EXTENSIONS. ROOF DRAINAGE: COORDINATE WITH GENERAL CONTRACTOR FOR ROOF DRAIN AND OVERFLOWS,	PSS V
5.	SCUPPER DRAINS, AND CONDENSATE DRAINS. PLUMBING FIXTURES & EQUIPMENT: COORDINATE EXACT LOCATION OF ALL PLUMBING FIXTURES &	SD OD
	EQUIPMENT WITH ARCHITECTURAL AND OTHER TRADES DOCUMENTS.	
6.	PIPING: COORDINATE EXACT LOCATION OF ALL STRUCTURAL FRAMING & FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL ENGINEER AT THE SITE PRIOR TO AND DURING THE CONSTRUCTION. COORDINATE UNDER GRADE PIPING & FOUNDATION DRAINAGE PIPING WITH CIVIL ENGINEER.	PCD
7.	ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.	140
8.	APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THE BID DOCUMENTS.	
9.	FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.	FOF FOS
10.	PRIOR TO PIPING INSTALLATION: PLUMBING CONTRACTOR TO COORDINATE PIPING LAYOUT WITH ALL OTHER TRADES.	— — FOR — —
11.	ACCESS: COORDINATE ALL ACCESS LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT TO ENSURE ALL REQUIRED ACCESS HATCHES, ACCESS PANELS & ACCESS COVERS ARE PROVIDED.	
12.	PROVIDE WATER TIGHT SEALS FOR ANY PIPING PENETRATING THE EXTERIOR FOUNDATION WALLS OR SLABS.	G MPG
13.	ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT IMMEDIATELY.	
14.	PROVIDE FIRE PROOFING FOR ALL PIPING PENETRATING FIRE BARRIER WALLS OR FLOOR SLABS.	———— F ————
<u>DI</u> 3	SINFECTION OF POTABLE WATER SYSTEM REQUIREMENTS	
	NEW OR REPAIRED POTABLE WATER SUPPLY SYSTEMS SHALL BE DISINFECTED PRIOR TO USE.	
2. 3.	INITIAL COLIFORM SAMPLE IS REQUIRED PRIOR TO ADMINISTERING WATER-CHLORINE SOLUTION. SECTION 609.9 ITEMS #2 OR #3 CAN BE USED PRECEDED BY AND FOLLOWED BY	Ŷ
	ITEM #1. 1. NOTE FILL PORT TO ADD CHLORINE MUST BE WHERE WATER SUPPLY ENTERS BUILDING AND A FLOW METER TO MEASURE SOLUTION. AFTER WATEROCHLORINE SOLUTION IS INCORPORATED INTO THE NEW OR REPAIRED WATER SUPPLY SYSTEM A 48 HOUR WAITING PERIOD MUST BE OBSERVED PRIOR	
5.	WATER SUPPLY STSTEM A 48 HOUR WATTING PERIOD MUST BE OBSERVED PRIOR TO BACTERIOLOGICAL TEST. BACTERIOLOGICAL TEST SHALL BE CONDUCTED BY A LABORATORY CERTIFIED FOR DRINKING WATER IN WASHINGTON STATE AFFIRMING WATER QUALITY CONTAINS NO COLIFORM BY SAMPLE TESTING THE FURTHEST FIXTURE FROM PUBLIC WATER SOURCE AND NOT LESS THAN TWO OTHER LOCATIONS PART OF THE WATER	
6.	SUPPLY SYSTEM. CHLORINE LEVEL IN THE NEW OR REPAIRED WATER SUPPLY SYSTEM SHALL NOT BE LESS THAN THE MEAN AVERAGE OF THE AREA IN RELATIONSHIP FROM THE	
7.	WATER PURVEYOR SOURCE. WARNING: IN CASE A WATER SOFTENER IS PART OF THE COLD WATER SYSTEM, CONTRACTOR TO ENSURE THE WATER SOFTENER IS CONNECTED AND OPERATIONAL	
	BEFORE STARTING THE DISINFECTION PROCESS. FAILURE TO FOLLOW THE INSTRUCTIONS WILL VOID THE WATER HEATER OR HEAT PUMP WARRANTY.	

SYMBOLS

<u>general</u>

ARCHITECTURAL BACKGROUND (THIN LINE)

NEW PIPING (HEAVY LINE)

EXISTING PIPING (THIN LINE)

EXISTING WORK TO BE REMOVED

MATCHLINE OR PROPERTY LINE

CONNECTION TO EXISTING

SECTION IDENTIFICATION

PLANE

- LETTER INDICATES SECTION (NO. INDICATES DETAIL)

DRAWN TAKEN

DETAIL IDENTIFICATION

----- DRAWING/SHEET NUMBER

<u>EQUIPMENT</u>

TYPICAL EQUIPMENT DESIGNATION

PIPING	
WASTE BELOW GRADE	-
WASTE ABOVE GRADE	\bigotimes
PUMPED WASTE	
INDIRECT WASTE	
SANITARY SEWER BELOW GRADE	
SANITARY SEWER ABOVE GRADE	
PUMPED SANITARY SEWER	
VENT	
STORM DRAIN	
OVERFLOW STORM DRAIN	
PUMPED STORM DRAIN	
CONDENSATE DRAIN	
PUMPED CONDENSATE DRAIN	
COLD WATER (CW)	
HOT WATER (HW), POTABLE, 120°F	
HOT WATER, POTABLE, TEMPERATURE OTHER THAN 120°F	
HOT WATER CIRCULATING (HWC), POTABLE, 120°F	
HOT WATER CIRCULATING, POTABLE, TEMPERATURE OTHER THAN 120°F	
FUEL OIL FILL	
FUEL OIL SUPPLY	
FUEL OIL RETURN	
FUEL OIL VENT	
RELIEF VENT	
LOW PRESSURE NATURAL GAS	
MEDIUM PRESSURE NATURAL GAS	
IRRIGATION (NON POTABLE)	

FIRE MAIN

<u>PIPE SYMBOLS</u>

TOP PIPE CONNECTION BOTTOM PIPE CONNECTION PIPE TURNING UP PIPE TURNING DOWN/DROP PIPE CAP PIPE PLUG UNION FLANGE WYE STRAINER WYE STRAINER WITH CAPPED HOSE END BLOWDOWN VALVE BALL VALVE

BALL VALVE
GLOBE VALVE
CHECK VALVE
BALANCING OR
BUTTERFLY VA
FLEXIBLE CONN
PRESSURE REE
AUTOMATIC CC
AUTOMATIC CC
RELIEF VALVE
BALANCING/ME
REDUCER
DIRECTION OF
PIPE ANCHOR
PIPE ALIGNMEN
PIPE SUPPORT
VALVE STATION
INDIRECT DRAII
POINT OF CON
ROOF DRAIN, (
FLOOR DRAIN
HOSE BIBB
BREAK IN PIPI
GAS METER
INLINE WATER
PUMP
PRESSURE GAU
THERMOMETER
PRESSURE/TEN
TEST PORT
TEST PORT REDUCED PRES
TEST PORT REDUCED PRES PREVENTER
TEST PORT REDUCED PRES PREVENTER DOUBLE CHECK
TEST PORT REDUCED PRES PREVENTER DOUBLE CHECK CATCH BASIN
TEST PORT REDUCED PRES PREVENTER DOUBLE CHECK CATCH BASIN TRENCH DRAIN
TEST PORT REDUCED PRES PREVENTER DOUBLE CHECK CATCH BASIN TRENCH DRAIN EMERGENCY GA

BALL VALVE
GLOBE VALVE
CHECK VALVE
BALANCING OR PLUG VALVE
BUTTERFLY VALVE
FLEXIBLE CONNECTION IN PIPING
PRESSURE REDUCING VALVE (PRV)
AUTOMATIC CONTROL VALVE, 2-WAY
AUTOMATIC CONTROL VALVE, 3-WAY
RELIEF VALVE
BALANCING/METERING VALVE
REDUCER
DIRECTION OF FLOW
PIPE ANCHOR
PIPE ALIGNMENT GUIDE
PIPE SUPPORT
VALVE STATION OR ASSEMBLY
INDIRECT DRAIN, PIPE TO DRAIN
POINT OF CONNECTION
ROOF DRAIN, OVERFLOW DRAIN
FLOOR DRAIN
HOSE BIBB
BREAK IN PIPING OR DUCTWORK
GAS METER
INLINE WATER METER
PUMP
PRESSURE GAUGE
THERMOMETER
PRESSURE/TEMPERATURE
TEST PORT REDUCED PRESSURE BACKFLOW PREVENTER
DOUBLE CHECK VALVE ASSEMBLY
CATCH BASIN - SAND/OIL INTERCEPTO
TRENCH DRAIN
EMERGENCY GAS SHUT-OFF VALVE
SEISMIC GAS SHUT-OFF VALVE
WASHER BOX
GREASE INTERCEPTOR

ABV AD AFF AHJ BFF BFP BOH BP BT BTUH BV C CAP CB CD CFF CFM CI CLG CLW CO COMB CONT CONTR COTG CONT COTG CV CW D DB DF DFU DI DIM DN DS DWG (E) EFF ELEC EQUIV EWC FF FD CFF FD CFF FD CFF FD CFF FF CO FD CFF FF FD C FF FD FD FD FD FD FD FD FD FD FD FD FD	ABOVE AREA DRAIN ABOVE FINISHED FLOOR AUTHORITY HAVING JURISDICTION BELOW FINISHED FLOOR BACKFLOW PREVENTER BACK OF HOUSE BOOSTER PUMP BATHTUB BRITISH THERMAL UNIT PER HOUR BALANCING VALVE COMMON CAPACITY CATCH BASIN CONDENSATE DRAIN CAPPED FOR FUTURE CUBIC FEET PER MINUTE CAST IRON CEILING, COOLING CLOTHES WASHER CLEANOUTS COMBUSTION CONTINUE, CONTROL CONTINUE, CONTROL CONTINUE, CONTROL CONTINUE, CONTROL CONTRACTOR CLEANOUTS TO GRADE CIRCULATING PUMP CHECK VALVE COLD WATER DIAMETER DRY BULB, DECIBEL DRINKING FOUNTAIN DRAIN FIXTURE UNITS DUCTILE IRON DIMENSION DOWN DOWN SPOUT DRAWING EXISTING EFFICIENCY ELECTRIC EQUIVALENT ELECTRIC WATER COOLER ELECTRIC WATER HEATER EXTERIOR, EXTERNAL FAHENHEIT FLOOR CLEANOUTS FLOOR DRAIN FIRE DEPARTMENT CONNECTION FINISHED FLOOR
	DWG

DRAWING INDEX							
DWG	DESCRIPTION		ICLL	JDE) IN	SE	Т
		PERMIT SET 2/15/2024	OWNER CHANGE SET 9/05/2024				
P0G.00	LEGEND, GENERAL NOTES, AND DRAWING INDEX	×	×				
P0G.01	PLUMBING NOTES AND TABLES	×	×				
P0G.02	PLUMBING CALCULATIONS	×	×				
P0G.03	PLUMBING SCHEDULES	×	×				
P2G.00	UNDERSLAB WASTE & VENT PLAN	×	×				
P2G.01	LEVEL 1 WASTE & VENT PLAN						
P2G.02	LEVEL 2 WASTE & VENT PLAN	x	x				
P2G.03	LEVEL 3 WASTE & VENT PLAN	×	×				
P2G.04	ROOF WASTE & VENT PLAN	×	×				
P3G.01	LEVEL 1 PLUMBING SUPPLY PLAN	x	x				
P3G.02	LEVEL 2 PLUMBING SUPPLY PLAN	×	×				
P3G.03	LEVEL 3 PLUMBING SUPPLY PLAN	×	×				
P4G.00	WASTE & VENT RISER DIAGRAMS	×	×				
P5G.00	SUPPLY RISER DIAGRAMS		×				
P7G.00	DETAILS	x	x				
P7G.01	DETAILS	×	×				

Update code references within the plans to be consistent with submitte Washington State Plumbing Code. would be Sheet P0G.01, Pipe Insul Schedule, note references the 2019 Another example would be on shee Fixture Unit Calculations references Review and update code references

(Construction Set, Sheet P0G.00 and others)

Update references in plumbing sheets to either details or other plumbing plan pages. There a multiple references to either incorrect pages or pages that do not exist. Example sheet P4G.00 refers to P200 for riser diagram, which are on sheets P4G.00 and P5G.00. See comment on sheet P0G.03 for another example. Review and update plumbing sheets as needed.

(Construction Set, Sheet P0G.00 and others)

ABBREVIATIONS

FLR FPS FST FU GGD GGP GGP GGP GGP GGP GGP GGP GGP GGP	FLOOR FEET PER MINUTE FEET PER SECOND FLOOR SINK FEET FIXTURE UNITS GAS (LOW PRESSURE) GALLONS GARAGE DRAIN GAS METER GRAINS PER GALLON GALLONS PER MINUTE GATE VALVE GYPSUM WALLBOARD GAS WATER HEATER HOSE BIBB HEAD HUB DRAIN HOSE END DRAIN VALVE HORIZONTAL HORSEPOWER HIGH PRESSURE COLD WATER HOT WATER RE-CIRCULATION HOT WATER RETURN HOT WATER RETURN HOT WATER STORAGE TANK HEAT EXCHANGER INDUSTRIAL COLD WATER INDUSTRIAL COLD WATER INDUSTRIAL COLD WATER INDUSTRIAL COLD WATER INDUSTRIAL COLD WATER INDUSTRIAL HOT WATER INDUSTRIAL HOT WATER INDUSTRIAL HOT WATER INCH KITCHEN SINK KILOWATT LONG, LENGTH LAVATORY POUND WATER METER THOUSAND BTU PER HOUR MECHANICAL MIN. CIRCUIT AMPACITY MAX. OVER CURRENT PROTECTION MEDIUM PRESSURE GAS MOUNTED NEW NORMALLY CLOSED NORMALLY CLOSED NORMALLY OPEN OUTSIDE DIMENSION/DIAMETER	OPD OPNG P D POC PRV PS PSB PSB PSB PSW PW RD REF RPB RPM S SCH SCW SD SEP SF SGSV SH SO SP SR SSS STD SQ TD TMV TP TYP UH UON UR V VTR W WCO WHD WSFU	PUMPED SANITARY SEWER PUMPED SANITARY WASTE PUMPED WASTE ROOF DRAIN REFERENCE REDUCED PRESSURE BACKFLOW PREVENTER REVOLUTIONS PER MINUTE SINK SCHEDULE SOFTENED COLD WATER STORM DRAIN SEWAGE EJECTOR PUMP SQUARE FOOT SEISMIC GAS SHUT-OFF VALVE SHOWER STORM OVERFLOW
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PROJECT: BRADLEY HEIGHT APARTMENTS - BUILDING G	202 27 I HAVE SE PUYALLUP, WA 98374	DDDDD 19401 40TH AVE W. SUITE 302	ENGINEERING, INC PHONE:(206)364-3343
NOT DRA	TITLE: END ES A WINC	6/2024 GENI ND G IND	EX

PLUMBING TABLES

PIPE INSULATION SCHEDULE

SERVICE	OPTION	1	OP	TION 2	VAPOR RETARDER	NOTES	
SERVICE	MATERIAL	THICKNESS	MATERIAL	THICKNESS	REQUIRED		
DOMESTIC COLD WATER, IRRIGATION WATER, CONDENSATE DRAINS, STORM DRAIN (IN CONDITIONED SPACE)	MINERAL-FIBER WITH JACKET	ALL SIZES: ½"	PVC/NBR	ALL SIZES: ¾"	YES	12,13	
DOMESTIC COLD WATER, IRRIGATION WATER, CONDENSATE DRAINS, WASTE (OUTSIDE THE CONDITIONED SPACE)	MINERAL-FIBER WITH JACKET	(R-3) 炎"PIPE: ½" ALL OTHER SIZES: 1"	PVC/NBR	(R-3) ½" PIPE: ½" ALL OTHER SIZES: ¾"	YES	7,8,10	
ROOF DRAIN BODIES	MINERAL-FIBER OR CELLULAR GLASS WITH JACKET	1"	PVC/NBR	1"	YES	12	
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER (RESIDENTIAL)	MINERAL-FIBER WITH JACKET	(R-3) 炎"PIPE: ½" ALL OTHER SIZES: 1"	PVC/NBR	(R-3) ½" PIPE: ½" ALL OTHER SIZES: ¾"	NO	2,10	
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER (NONRESIDENTIAL)	MINERAL-FIBER WITH JACKET	½"-1¼" PIPE: 1" 1½"-4" PIPE:1.5"	PVC/NBR	½"–1¼" PIPE: 1" 1½"–4" PIPE:1.5"	NO	3,9	
EXPOSED SANITARY DRAINS AND DOMESTIC WATER SUPPLIES AND STOPS FOR ADA FIXTURES.	TRUEBRO LAV-GUARD	N/A	N/A	N/A	NO	11	

<u>NOTES:</u>

1. PIPING INSULATION EXPOSED TO THE WEATHER SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED

2. PER 2019 CEC SECTION R403.5.3 (RESIDENTIAL) INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM R-VALUE OF R-3.

3. PIPING FROM WATER HEATER TO THE TERMINATION OF HEATED WATER SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.9.

- 4. ON BOTH THE INLET AND OUTLET PIPING OF A STORAGE HOT WATER HEATER, THE FIRST 8 FEET OF PIPING OR PIPING FROM WATER HEATER TO HEAT TRAP SHALL BE INSULATED. 5. HEAT TRACED PIPING SHALL BE INSULATED IN THE SAME MANNER AS NON HEAT TRACED PIPING OR PER THE HEAT TRACE MANUFACTURER'S INSTRUCTIONS. 6. TUBULAR PIPING INSULATION SHALL NOT BE REQUIRED FOR THE FOLLOWING:
- 6.1. THE TUBING FROM THE CONNECTION AT THE TERMINATION OF THE FIXTURE SUPPLY PIPING TO A PLUMBING FIXTURE OR PLUMBING APPLIANCE. 6.2. VALVES, PUMPS, STRAINERS, AND THREADED UNIONS IN PIPING THAT IS 1 INCH OR LESS IN NOMINAL DIAMETER.
- 6.3. PIPING FROM USER-CONTROLLED SHOWER AND BATH MIXING VALVES TO THE WATER OUTLETS.
- 6.4. COLD WATER PIPING OF A DEMAND RECIRCULATION WATER SYSTEM. TUBING FROM A HOT DRINKING-WATER HEATING UNIT TO THE WATER OUTLET. 6.5.
- 6.6. PIPING AT LOCATIONS WHERE A VERTICAL SUPPORT OF THE PIPING IS INSTALLED.

4 FT. |

EVERY

OTHER JOINT

10 FT.

15 FT.

- 6.7. PIPING SURROUNDED BY BUILDING INSULATION WITH A THERMAL RESISTANCE (R-VALUE) OF NOT LESS THAN R-3. 6.8. HOT WATER PIPING THAT IS PART OF THE FINAL PIPE RUN TO THE PLUMBING FIXTURE AND IS NOT PART OF THE HEATED-WATER CIRCULATION SYSTEM CIRCULATION PATH IS NOT REQUIRED TO MEET THE
- MINIMUM INSULATION REQUIREMENTS OF C404.6. 7. PER 2018 UPC SECTION 312.6 NO WATER, SOIL, OR WASTE PIPE SHALL BE INSTALLED OR PERMITTED OUTSIDE OF A BUILDING, IN ATTICS OR CRAWL SPACES, OR IN AN EXTERIOR WALL UNLESS, WHERE NECESSARY, ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPE FROM FREEZING. ALL HOT AND COLD WATER PIPES OUTSIDE THE CONDITIONED SPACE SHALL BE PROVIDED WITH INSULATION WITH A MINIMUM R-VALUE OF R - 3
- SUCH AS HEAT TRACING OF OUTDOOR PIPING, SHALL INCLUDE AUTOMATIC CONTROLS CONFIGURED TO SHUT OFF THE SYSTEMS WHEN OUTDOOR AIR TEMPERATURES ARE ABOVE 40°F.
- 8. HEAT TRACING SHALL BE PROVIDED FOR COLD WATER AND IRRIGATION WATER IN UNCONDITIONED SPACES. CONTACT ENGINEERING IF NECESSARY. PER 2019 CEC SECTION C403.12.3 FREEZE PROTECTION SYSTEMS.

FIXTURE TYPE

- 9. PER 2019 CEC TABLE C403.2.9 INSULATION FOR HOT WATER AND HOT WATER RECIRCULATION SHALL HAVE A THERMAL CONDUCTIVITY OF 0.21-0.28 (BTU.IN/H.FT².°F) AT OPERATING TEMPERATURE.
- 10. INSULATION R-VALUE SHALL MEET THE MINIMUM REQUIREMENT. THICKNESS IS BASED ON GRAINGER SAMPLE DATA FOR K-FLEX(PVC/NBR) AND OWENS CORNING(FIBER GLASS). 11. ALL ADA P-TRAPS, HOT WATER SUPPLY TUBING, AND SHUT-OFF COCKS SHALL BE PROTECTED WITH APPROVED COVERS TO PREVENT SCALDING.

SHOWERHEADS

LAVATORY FAUCETS, RESIDENTIAL

LAVATORY FAUCETS, NON-RESIDENTIAL

- 12. REQUIRED BY ENGINEERING BASED ON BEST PRACTICE.
- 13. INSULATION IS NOT REQUIRED ON PLASTIC COLD WATER PIPING.

HANGER SPACING FOR WATER PIPING									
	ALL SUSPENDED WATER SUPPLY PIPE SHALL BE SUPPORTED AS FOLLOWS PER 2018 UPC TABLE 313.3:								
MAX. HORIZONTAL MAX. VERTICAL SPACING SPACING									
COPPER PIPE ≤1½"	6 FT.	10 FT.							
COPPER PIPE >2"	10 FT.	10 FT.							
COPPER TUBING $\leq 1\frac{1}{2}$ "	6 FT.	10 FT.							
COPPER TUBING >2"	10 FT.	10 FT.							
CPVC <u><</u> 1"	3 FT.	10 FT.							
CPVC > 1¼"	4 FT.	10 FT.							

*CAST-IRON OVER 4' SHALL BE SUPPORTED AT EVERY JOIN

PVC (TYPE DWV)

CAST-IRON HUBLESS*

$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		0 FI. 0 FT.		KITCHEN	FAUCETS
CPVC > 1/4" 4 FT.		0 FT.		GRAVITY	TANK-TYPE WATER CLOSETS
			J	FLUSHOM	ETER TANK WATER CLOSETS
				FLUSHOM	ETER VALVE WATER CLOSETS
HANGER SPACING FOR WAST				ELECTRO	MECHANICAL HYDRAULIC WATER CLOSETS
ANGER SPACING FOR WAST		II PIPING		URINALS	
ALL SUSPENDED SANITARY AND VENT SUPPORTED AS FOLLOWS PER 2018			- [NOTES:	
	MAX. HORIZ. SPACING	MAX. VERT. SPACING		l. 2.	LAVATORY FAUCETS SHALL NOT HAVE WHERE COMPLYING FAUCETS ARE UNAV
ABS	4 FT.	10 FT.			REDUCTION.

- REDUCTION.
- 3. DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GPM @ 60 PSI. 4.

NOTE TO CONTRACTOR	PRE-CONSTRUCTION ME
DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.	CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORM LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK W ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS
CONTRACTOR SUBSTITUTIONS	PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COM WILL BE ISSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PR
& REVISIONS	CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS.
PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL	THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED:

PRIOR TO ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

MECHANI PLUMBIN ELECTRIC SPRINKLE GENERAL

PLUMBING FIXTURE FLOW RATES PER 2018 UPC CH. 4

	FLOW RATE	NOTES
	1.8 GPM @ 80 PSI	
	1.2 GPM @ 60 PSI	1
	0.5 GPM @ 60 PSI	2
	1.8 GPM @ 60 PSI	3
	1.28 GALLONS/FLUSH	4
	1.28 GALLONS/FLUSH	4
	1.28 GALLONS/FLUSH	4
ſS	1.28 GALLONS/FLUSH	4
	0.5 GALLONS/FLUSH	

ETS SHALL NOT HAVE A FLOW RATE LESS THAN 0.8 GPM AT 20 PSI.

NG FAUCETS ARE UNAVAILABLE, AERATORS RATED AT 0.35 GPM OR OTHER MEANS MAY BE USED TO ACHIEVE

KITCHEN FAUCETS MAY TEMPORARILY INCREASE FLOW ABOVE THE MAXIMUM RATE, BUT NOT ABOVE 2.2 GPM @ 60 PSI AND MUST

INCLUDES SINGLE AND DUAL FLUSH WATER CLOSETS WITH AN EFFECTIVE FLUSH OF 1.6 GALLONS OR LESS. SINGLE FLUSH TOILETS - THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.6 GALLONS. THE EFFECTIVE FLUSH VOLUME IS THE AVERAGE FLUSH VOLUME WHEN TESTED IN ACCORDANCE WITH ASME A112.19.2 DUAL FLUSH TOILETS - THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.6 GALLONS. THE EFFECTIVE FLUSH VOLUME IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH. FLUSH VOLUMES WILL BE TESTED IN ACCORDANCE WITH ASME A112.19.2 AND ASME A112.19.14.

E-CONSTRUCTION MEETING NOTES

HALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A ON. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS, AND ON-SITE OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. DING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC DED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD

ICAL SHEET METAL	4 HOURS
IG/PIPING	4 HOURS
CÁL	4 HOURS
ER	2 HOURS
_ CONTRACTOR	ALL SESSIONS

- CONNECTIONS: PROVIDE PLUMBING FIXTURE C WASTE, VENT, COLD WATER, AND HOT WATER WITH DRAWINGS, MANUFACTURER'S RECOMMEN CODES. CONNECT TO EACH FIXTURE, EQUIPME ACCESSORIES, VALVES, VACUUM BREAKERS, ETC. AS REQUIRED AND AS RECOMMENDED B REFER TO PLUMBING FIXTURE CONNECTION SC
- 2. HOT AND COLD: WATER PIPING CONNECTION BE COLD WATER ON THE RIGHT HAND SIDE AN LEFT HAND SIDE.
- 3. HOT WATER: NON-CIRCULATING HOT WATER P 10' UNLESS OTHERWISE SHOWN ON DRAWINGS.
- 4. VENT STACKS: COORDINATE VENT STACK WITH MAINTAIN MINIMUM 10' CLEARANCE FROM OUTS
- 5. CLEANOUTS: PROVIDE CLEANOUTS PER CURRE REQUIRED BY LOCAL JURISDICTIONS. CLEANOU IN WALLS/FLOORS WHERE THEY ARE NOT HIG CLEANOUTS IN CARPETED AREAS TO BE FITTE LOCATIONS SHALL BE SUBMITTED TO ARCHITEC NOTE: NOT ALL CLEANOUTS ARE SHOWN ON
- 6. SUDS RELIEF: PROVIDE SUDS RELIEF IN ACCO SECTION 711.0, STATE AND LOCAL CODES.
- 7. SHUT-OFFS: PROVIDE 1/4 TURN BALL VALVE VALVES AND BRAIDED STAINLESS STEEL FLEX AND COLD WATER SUPPLY TO EACH FIXTURE. SCREWDRIVER STOPS AT BATH/SHOWERS.
- 8. TUB SPOUTS SHALL BE THREADED (NO PUSH-
- 9. TRAP ARMS: PROVIDE TRAP ARMS SUCH THAT WILL NOT EXCEED CODE REQUIREMENTS.
- 10. ADA INSULATION: AT PLUMBING PIPING EXPOS INSULATE THE EXPOSED PIPING AND TRAPS V SPECIFICALLY DESIGNED FOR THIS APPLICATION REQUIREMENTS. PROVIDE HANDI-LAV GUARD P-TRAPS TO CLEAR WHEELCHAIR ACCESS.
- 11. GAS EQUIPMENT: GAS EQUIPMENT SHALL BE EQUIPMENT LISTINGS, APPLICABLE SFGC, SPC, STANDARDS.
- 12. GAS CONNECTIONS: INSTALL FLEXIBLE QUICK FOR ALL GAS FIRED KITCHEN EQUIPMENT PER LOCAL CODES & NFPA STANDARDS. PROVIDE SHUT-OFF VALVES FOR FIREPLACES & BBQS LOCATIONS IN THE BUILDING.
- 13. GAS PIPING CONNECTIONS TO WATER HEATERS FURNACES SHALL HAVE DIRT LEGS AND UNION APPLIANCE SIDE OF SHUTOFF VALVE.
- 14. GAS PIPING INSTALLATION: STEEL OR MALLE OR SMALLER SHALL BE ASSEMBLED USING TH FOR NATURAL GAS. GAS PIPING LARGER THA WELDED FITTINGS.
- 15. GAS PIPING UNDERGROUND: WHERE INSTALLED THE OUTER FOUNDATION OR BASEMENT WALL BE ENCASED IN A PROTECTIVE PIPE SLEEVE. BETWEEN THE GAS PIPING AND THE SLEEVE
- 16. GAS PIPING ABOVE GROUND: WHERE PASSING WALL, GAS PIPING SHALL BE PROTECTED AGA COATING OR WRAPPING WITH AN INERT MATER ENCASED IN A PROTECTIVE PIPE SLEEVE, THE BETWEEN THE PIPING AND THE SLEEVE SHALL
- 17. GAS PIPE SUPPORT: FUEL LINES SHALL BE SU AND SHALL BE PLUMB AND SQUARE.
- 18. GAS PIPING ON ROOFTOPS SHALL BE SUPPOR THE ROOF.
- 19. GAS PIPING SHALL NOT BE BURIED UNDER A OTHER STRUCTURE.
- 20. GAS PIPING PROTECTIVE COATING: PAINT ALL PIPING WITH TWO COATS OF RUST INHIBITIVE
- 21. WATER HAMMER ARRESTORS: PROVIDE AT THE WATER LINES SERVING TWO OR MORE FIXTURE WITH PLUMBING AND DRAINAGE INSTITUTE (PD HAMMER ARRESTORS ARE REQUIRED FOR QUIC SUCH AS LAUNDRY WASHERS, FLUSH VALVES
- 22. TRAP PRIMERS AS SPECIFIED: PROVIDE TRAP FOR FLOOR DRAINS, FLOOR SINKS, AREA DRAI ARRANGE PIPING TO ACHIEVE EQUAL FLOW TO FLOOR SINK FOR TRAP PRIMERS SERVING MUL FLOOR SINKS. COORDINATE EXACT LOCATIONS ELECTRICAL ENGINEER.
- 23. P-TRAPS: ALL EXPOSED P-TRAPS SHALL BE P-TRAPS SERVING HANDICAPPED COUNTER T INSULATED.
- 24. THROUGHOUT THE PROJECT PROVIDE BALL VAI SHALL NOT BE USED. NO EXCEPTIONS.
- 25. HOT WATER RECIRCULATING BALANCING VALVE GOSSETT CIRCUIT SETTER (WATTS OR EQUAL) PORTS, ADJUSTMENT KNOB, DRAIN CONNECTION SHUTOFF.

THE FOLLOWING PROJECT DESIGN IS BASED ON THE FOLLOWING CODES:

-2018 INTERNATIONAL BUILDING CODE (IBC) -2018 INTERNATIONAL MECHANICAL CODE (IMC) -2018 UNIVERSAL PLUMBING CODE (UPC) -2018 WASHINGTON STATE ENERGY CODE (WSEC) - COMMERCIAL PROVISIONS

PLUMBING NOTES

FLUMDIN	U	NULS				
CONNECTIONS TO BUILDING R SYSTEM IN ACCORDANCE INDATIONS, AND LOCAL	26.	DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.				
IENT, ETC. WITH ALL REGULATORS, UNIONS, BY THE MANUFACTURERS.	27.	REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.				
SCHEDULE ON PLANS. TO EACH FIXTURE SHALL	28.	VALVE TAGS: PROVIDE VALVE TAGS PER SPECIFICATIONS TO IDENTIFY VALVE AND THE AREA IT SERVES.				S
AND HOT WATER ON THE	29.	OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.				rion Revisions
PIPE SHALL NOT EXCEED S.	30.	ALL TEMPERATURE MIXING VALVES SHALL COMPLY WITH ASSE-1070 SAFETY STANDARDS.				DESCRIPTION
TH HVAC EQUIPMENT TO JTSIDE AIR INTAKES.	31.	PROVIDE PIPE MARKER WITH DIRECTION OF FLOW. LABEL "NON-POTABLE WATER DO NOT DRINK" CLEARLY ON NON-POTABLE WATER PIPING.			_	
RENT UPC AND AS DUTS SHALL BE LOCATED GHLY VISIBLE. FLOOR	32.	PROVIDE EXPANSION LOOPS/EXPANSION JOINTS IN PIPING PER 2018 UPC TABLE 313.3 AND MANUFACTURER INSTALLATION INSTRUCTIONS.			_	DATE
TED WITH CARPET INSERTS. ECT FOR APPROVAL. THE PLUMBING DRAWINGS.	33.	PROVIDE APPROVED PIPE HANGERS & PIPE SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND 2018 UPC TABLES 313.3 & 313.6. SUBMIT FOR APPROVAL.				NO.
ORDANCE WITH 2018 UPC	34.	DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.				×
E ANGLE STOP SHUT-OFF X CONNECTORS AT HOT E. EXCEPTION: PROVIDE	35.	REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.		A LE SE	ASHINGON	
H-ON FITTINGS).	36.	CONDENSATE DRAIN: PROVIDE A P-TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.		PEGIST	Jen/	
AT THE MAXIMUM LENGTH	37.	PIPING & EQUIPMENT SUPPORTS/HANGERS & SEISMIC RESTRAINTS TO BE DESIGNED BY DESIGN BUILT CONTRACTOR.	×			,Gr
DSED UNDER LAVATORIES, WITH PRODUCT	38.	IF NEEDED, PROVIDE VACUUM BREAKERS AT ALL HOSE BIBBS.			$\boldsymbol{\nabla}$	
ON MEETING ADA OR EQUIVALENT. OFFSET	39.	FLOOR DRAINS OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE AND SUBJECT TO INFREQUENT USE SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC MEANS OF MAINTAINING THEIR WATER SEALS IN ACCORDANCE WITH 2018 UPC 1007.0.)	┛
INSTALLED PER C, LOCAL CODES & NFPA	40.	INSULATION MATERIAL SHALL MEET CITY OF FERNDALE QUALITY STANDARDS.	EN	GINEEF 9401 40TH AVE	RING, I	INC
DISCONNECT ASSEMBLIES R APPLICABLE SFGC, SPC,	41.	ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE 2018 WASHINGTON STATE ENERGY CODE.		LYNNWOOD, 206-364-33 REI PROJECT N CONTACT: JEFF I	343 tel. 10.: 1219-001	
E LOCKABLE GAS S IN UNATTENDED PUBLIC	42.	BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH 2018 UPC 701.0 AND 903.0.				
RS, BOILERS AND ONS PROVIDED ON	43.	ALL SANITARY SYSTEM MATERIAL SHALL BE LISTED BY AN APPROVED LISTING AGENCY.	ML	ML	R	JR
EABLE IRON FUEL LINES 2" THREAD SEALANT SUITABLE TAN 2" SHALL HAVE	44.	ALL STORAGE WATER HEATING EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED, LISTED EXPANSION TANK OR OTHER DEVICE DESIGNED FOR INTERMITTENT OPERATION FOR THERMAL EXPANSION CONTROL PER 2018 UPC 608.3.	DRAWN:	ESIGNED:	CHECKED:	APPROVED:
ED BELOW GRADE THROUGH	45.	WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENTS DUE TO SEISMIC MOTION PER 2018 UPC 507.2.	DRA	DES	CHE	APP
. THE ANNULAR SPACE SHALL BE SEALED.	46.	MATERIAL EXPOSED WITHIN A DUCT OR PLENUM SHALL COMPLY WITH 2018 IMC 602.2.1.	C			
G THROUGH AN OUTSIDE GAINST CORROSION BY ERIAL. WHERE PIPING IS	47.	HVAC EQUIPMENT AND WATER HEATERS SHALL COMPLY WITH 2018 IMC CHAPTER 3.	DING			
IE ANNULAR SPACE _L BE SEALED.	48.	BOILERS SHALL COMPLY WITH ALL THE REQUIREMENTS OF 2018 IMC CHAPTER 10.				
SUPPORTED OR STRAPPED,	49.	PROVIDE EXPANSION TANKS FOR BOILERS PER 2018 IMC SECTION 1009.0.	BUIL			
ORTED AND ANCHORED TO	50.	SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER 2018 UPC 408.0.	ч С			
A BUILDING, SLAB OR	51.	PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH CITY OF FERNDALE WATER CONSERVATION STANDARDS.	INT			
L EXTERIOR EXPOSED GAS PAINT. COLOR: GRAY.	52.	CONTRACTOR SHALL PROVIDE FIRESTOPPING AT PENETRATIONS AS NECESSARY TO RETAIN THE FIRE RATING OF ALL ASSEMBLIES. ALL	TMI		TE 302	
HE END OF HOT AND COLD RES; SIZE IN ACCORDANCE PDI) REQUIREMENTS. WATER JICK CLOSING VALVES,	53.	WORK SHALL BE IN COMPLIANCE WITH CODE REQUIREMENTS FOR THE BUILDING CONSTRUCTION TYPE. ALL GARAGE DRAINS, TRASH ROOMS DRAINS & GARAGE TRENCH	APARTMENT		AVE W. SUI	LYNNWOOD, WA 98036 PHONE:(206)364-3343
S (PUBLIC TOILETS), ETC. P PRIMERS AND PIPING		DRAINS SHALL BE TAKEN TO SAND/OIL INTERCEPTOR(S) BEFORE CONNECTING TO THE SANITARY SEWER SYSTEM.	GHT /	4	40TH	WOOD, E:(206)
AINS & HUB DRAINS. TO EACH DRAIN AND JLTIPLE DRAINS AND S WITH ARCHITECT &		PLUMBING CONTRACTOR SHALL PROVIDE REDUCED PRESSURE BACKFLOW PREVENTERS OR OTHER APPROVED BACKFLOW PREVENTION DEVICE WHERE REQUIRED BY HEALTH AUTHORITIES, FOOD SERVICE DRAWINGS, APPLIANCE MANUFACTURER INSTRUCTIONS AND BY CODE.	ШЧ	SE A 9837	19401	
E CHROME-PLATED BRASS. TOP LAVATORIES SHALL BE		PROVIDE REQUIRED & PROPER BACK FLOW PREVENTERS AS SPECIFIED FOR THE APPLIANCES INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: a. ICE MACHINES AND ICE MAKERS		I H AVE LUP, W		IG, ING
ALVES. GATE VALVES		 d. ICE MACHINES AND ICE MAKERS b. CARBONATED BEVERAGE DISPENSING SYSTEMS c. COFFEE BREWERS d. ESPRESSO MACHINES 	RAL	202 271 PUYALI		
VES SHOULD BE BELL & .) WITH INTEGRAL READOUT ION, AND POSITIVE		e. WATER FILTERS f. STEAM OR HOT WATER BOILERS	PROJECT: BI	PL D	R C R	ENGINEE
			DATE:	08/16	6/2024	
APPLICAB	SLE	CODES	QUEET			

SHEET NO. P0G.0⁴

PLUMBING NOTES

HEET TITLE:

AND TABLES

1 Bedroom Units (1 E	Bath)
	FIXTUF
WATER CLOSET	
LAVATORY	
BATHTUB	
CLOTHES WASHER	
KITCHEN SINK W/ DI	SHWASH
2 Bedroom Unit (2 Ba	ath)
	FIXTUR
WATER CLOSET	
LAVATORY	
BATHTUB	
CLOTHES WASHER	
KITCHEN SINK W/ DI	SHWASH
Public Fixtures	
	FIXTUR
HOSE BIB	
4" FLOOR DRAIN	
REQUIF	RED SER
	F

PLUMBING CALCULATIONS

PROJECT NAN lick for Drop-down Men		Bradley Heights - Build Multi-Family Buildin	Total N	Number of Apartments in the Buildin Total Apartments in this Calculatio			
FIXTURE GROUPS		FIXTURE	ENTER TOTAL NUMBER OF FIXTURES	PROBABILITY OF USE (%)	ENTER FIXTURE FLOW RATE (GPM)	MAXIMUM RECOMMENDED FIXTURE FLOW RAT (GPM)	
	1	Bathtub (no Shower)	0	0.49	5.5	5.5	
		Bidet	0	0.58	2.0	2.0	
Bathroom	3	Combination Bath/Shower	48	1.86	5.5	5.5	
Fixtures	4	Faucet, Lavatory	48	1.29	1.5	1.5	
	5	Shower, per head (no Bathtub)	0	1.26	2.0	2.0	
	6	Water Closet, 1.28 GPF Gravity Tank	48	0.58	3.0	3.0	
Kitchen Fixtures	7	Dishwasher	36	0.35	1.3	1.3	
Kitchen Fixtures	8	Faucet, Kitchen Sink	36	1.29	2.2	2.2	
Laundry Room Fixtures	9	Clothes Washer	36	1.78	3.5	3.5	
Laundry Room Fixtures	10	Faucet, Laundry	0	1.29	2.0	2.0	
Bar/Prep Fixtures	11	Faucet, Bar Sink	0	1.29	1.5	1.5	
	12	Fixture 1	0	0.00	0.0	6.0	
Other Fixtures	13	Fixture 2	0	0.00	0.0	6.0	
	14	Fixture 3	0	0.00	0.0	6.0	

NOTES: 1. ADD 4 GPM FLOW RATE FOR HOSE BIBBS - <u>TOTAL FLOW IS 29.5 GPM.</u>

CALCULATIONS BASED ON 2021 UPC															
1 Bedroom Units (1 Bath)															
		FIXTU	RE UNITS	1					# OF FIXTURES	TOTAL QTY		TOTAL FIX	FIXTURE UNITS		
FIXTURE	TOTAL	CW	HW	W/V	- 1	2	3	R	PER UNIT	OF FIXTURES	SERVICE	CW ONLY	HW ONLY	W/V ONLY	
WATER CLOSET	2.5	2.5	0	3	8	8	8	0	1	24	60	60	0	72	
LAVATORY	1	0.75	0.75	1	8	8	8	0	1	24	24	18	18	24	
BATHTUB	4	3	3	2	8	8	8	0	1	24	96	72	72	48	
CLOTHES WASHER	4	3	3	3	8	8	8	0	1	24	96	72	72	72	
KITCHEN SINK W/ DISHWASHER	3	2.25	2.25	2	8	8	8	0	1	24	72	54	54	48	
										TOTAL:	348	276	216	264	
2 Bedroom Unit (2 Bath)															
		FIXTU	RE UNITS						# OF FIXTURES	TOTAL QTY		TOTAL FIX	TURE UNITS		
FIXTURE	TOTAL	CW	HW	W/V	- 1	2	3	R	PER UNIT	OF FIXTURES	SERVICE	CW ONLY	HW ONLY	W/V ONLY	
WATER CLOSET	2.5	2.5	0	3	4	4	4	0	2	24	60	60	0	72	
LAVATORY	1	0.75	0.75	1	4	4	4	0	2	24	24	18	18	24	
BATHTUB	4	3	3	2	4	4	4	0	2	24	96	72	72	48	
CLOTHES WASHER	4	3	3	3	4	4	4	0	1	12	48	36	36	36	
KITCHEN SINK W/ DISHWASHER	3	2.25	2.25	2	4	4	4	0	1	12	36	27	27	24	
										TOTAL:	264	213	153	204	
Public Fixtures															
		I FIXTU	RE UNITS							TOTAL QTY		TOTAL FIX	 (TURE UNITS		
FIXTURE	TOTAL	CW	HW	W/V	- 1	2	3	R		OF FIXTURES	SERVICE	CW ONLY	HW ONLY	W/V ONLY	
HOSE BIB	2.5/1	2.5/1	0	0	2	0	0	0		2	3.5	3.5	0	0	
4" FLOOR DRAIN	0	0	0	8	1	0	0	0		1	0	0	0	8	
										TOTAL:	3.5	3.5	0	8	
	TOTAL	CW	HW	W/V											
TOTAL FIXTURE UNITS:	615.5	492.5	369	476											
PEAK FLOW:	FOR SUPPLY	USE APPENDI	X M CALCULA	TIONS	• •										
	SUPPLY	WASTE													
REQUIRED SERVICE SIZE IN BUILDING:	2"	6"													
REQUIRED METER SIZE:	1"														

36 36

Wednesday, September 4, 2024 10:47 PM

COMPUTED RESULTS FOR PEAK PERIOD CONDITIONS

Total No. of Fixtures in Calculation N = 252

99th Percentile Demand Flow Q = 25.5 GPM

Hunter Number H(n,p) = 3.02 Stagnation Probability

Pr[Zero Demand] = 5%

Method of Computation Modified Wistort's Method

BRADLEY HEIGHTS APARTMENTS - WATER SUPP CALCULATIONS ARE BASED ON 2018 UPC AP		RE
FROM STREET TO RPBP		
STREET PRESSURE, PSI		75
MINIMUM STREET PRESSURE, PSI		75
ASSUME +/- 5 PSI FLUCTUATION		
EQUIPMENT LOSSES, PSI		
WATER METER LOSS		4
BACKFLOW PREVENTER		10
SITE SERVICE LINE (ESTIMATE)		
PIPING SYSTEM LENGTH, FEET	50	
FITTING ALLOWANCE, FEET	12.5	
FROM STREET TO RPBP		
ZONE FRICTION LOSS FACTOR, PSI/100'	3.0	
TOTAL ZONE FRICTION LOSS, PSI		1.88
MINIMUM PRESSURE AT RPBP, PSI		59.13
FROM RPBP TO FURTHEST APARTMENT	UNIT	
MINIMUM PRESSURE AT END PREVIOUS ZONE, PSI		59.1
EQUIPMENT LOSSES, PSI		
THERMOSTATIC MIXING VALVE LOSS		4
STATIC HEAD, PSI		
TOTAL ELEVATION GAIN, FT	30	13.0
PIPING FRICTION LOSSES		
PIPING SYSTEM LENGTH, FEET	150	
FITTING ALLOWANCE, FEET	22.5	
ZONE FRICTION LOSS FACTOR, PSI/100'	3.0	
TOTAL ZONE FRICTION LOSS, PSI		5.175
MINIMUM PRESSURE AT FURTHEST APARTMENT UNIT, PSI		37.0
FROM FURTHEST APARTMENT UNIT TO FURTHE	EST FIXTURE	
MINIMUM PRESSURE AT FURTHEST APARTMENT UNIT, PSI		37.0
PIPING FRICTION LOSSES		
RISER TO MANIFOLD, FEET	4	
FITTING ALLOWANCE, FEET	6	
FROM MANIFOLD TO FURTHEST FIXTURE	35	
ZONE FRICTION LOSS FACTOR, PSI/100'	14.0	
TOTAL ZONE FRICTION LOSS, PSI		6.3
MINIMUM PRESSURE AT FURTHEST FIXTURE, PSI		30.7

100000 ROBISON ENGINEERING, INC 19401 40TH AVE W., SUITE 302 LYNNWOOD, WA 98036 206364.3343 TEL REI PROJECT NO: 1219001 CONTACT: JEFF MACGILLIVEAY NL LA AL \leq APARTMENTS - BUILDING G 19401 40TH AVE W. SUITE 302 LYNNWOOD, WA 98036 PHONE:(206)364-3343 BRADLEY HEIGHT / 202 27TH AVE SE OBISON DATE: 08/16/2024 SHEET TITLE: PLUMBING CALCULATIONS BHEET NO. POG.02

PIPE MATERIALS								
PIPE TYPE	MATERIAL	JOINT	NOTES					
WATER DISTRIBUTION PIPING	COPPER, TYPE L.	SOLDERED	2					
APARTMENT WATER PIPING	PEX-A	EXPANSION OR PUSH-FIT FITTINGS	2					
WASTE AND VENT PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	1,3					
CONDENSATE DRAIN PIPING	COPPER, TYPE M.	SOLDERED OR PROPRESS FITTINGS						

<u>NOTES:</u>

1. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.

2. PROVIDE THERMAL EXPANSION LOOPS FOR ALL WATER PIPING IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

3. PROVIDE CAST IRON PIPING FOR WASTE DISCHARGE EXCEEDING 110 DEGREES FAHRENHEIT.

PIPE	SIZING SC	HEDULE -	COPPER T	YPE L AT 3	3.0 PSI/100	FEET
	CO	LD WATER, FLUSH	ΓΑΝΚ		HOT WATER	
PIPE SIZE	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS
1/2"	0.8	1.8	2.4	1.0	2.0	2.8
3/4"	5.5	4.7	3.1	6.5	5.5	3.6
1"	12.8	9.8	3.8	15.2	11.2	4.4
1-1/4"	25.5	17.3	4.4	29.3	19.6	5.0
1-1/2"	46.6	27.7	5.0	46.8	27.7	5.0
2"	166.0	58.2	6.0	116.9	48.2	5.0
2-1/2"	395.0	104.0	7.0	246.9	74.4	5.0
3"	735.1	167.3	7.9	405.8	106.2	5.0
4"	1782.4	303.2	8.0	872.0	189.5	5.0
6"	6381.3	669.1	8.0	2847.0	418.2	5.0

PIPE SIZING SCHEDULE - PEX AT 14.0 PSI/100 FEET

	CC	DLD WATER, FLUSH T	ANK		HOT WATER	
PIPE SIZE	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS
1/2"	1.9	2.9	5.3	3.4	3.4	6.2
3/4"	9.0	7.5	6.8	11.2	8.6	7.8
1"	21.2	14.7	8.1	20.9	14.6	8.0
1-1/4"	40.8	25.3	9.3	33.5	21.8	8.0
1-1/2"	76.3	37.9	10.0	53.3	30.3	8.0
2"	199.8	65.0	10.0	134.8	52.0	8.0
2-1/2"	369.5	98.9	10.0	270.6	79.1	8.0
3"	588.9	141.0	10.0	439.0	112.8	8.0

PLUMBING SCHEDULES

		REDUCED	PRESSURE BACKFLOW	ASSEMBLY	
EQUIP NO.	QTY	SERVICE	INLET/OUTLET SIZE	BASIS OF DESIGN	NOTES
RPBP-1	1	DOMESTIC WATER	2"	ZURN WILKINS 375XL	1,2

<u>NOTES:</u>

1. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

2. ALL DOMESTIC WATER EQUIPMENT SHALL BE NSF-61 LISTED.

				ELE		FER HE	ATER			
EQUIP NO.	SERVICE	GPH RECOVERY	STORAGE	INLET/OUTLET	OPERATING WEIGHT		ELECTRICA	L	BASIS OF DESIGN	NOTES
EQUIF NO.	SERVICE	AT 100°F TR	(GAL)	CONŃECTION	(LBS)	VOLTAGE	AMPS	HEATER KW	BASIS OF DESIGN	NOTES
WH-1	APARTMENTS	16	50	3⁄4"	550	208V/3P	18.75	4.5	BRADFORD WHITE RE250T6-1NCWW	1,2,3,4,5
NOTES:							Update de	etail reference for	the electric water heater. in note 2.	
		JTRALIZER. VENT G SEE DETAIL 1/		ACTURER'S INS	TRUCTIONS.		(Construc	tion Set, Sheet P	OG.03, Electric Water Heater)	

3. UNITS SHALL BE CERTIFIED IN THE AIR QUALITY MANAGEMENT DISTRICT HAVING JURISDICTION.

4. FACTORY AUTHORIZED START-UP AND OWNERS TRAINING REQUIRED. OWNER, ENGINEER, AND CONTRACTOR TO RECEIVE A COPY OF START UP REPORT.

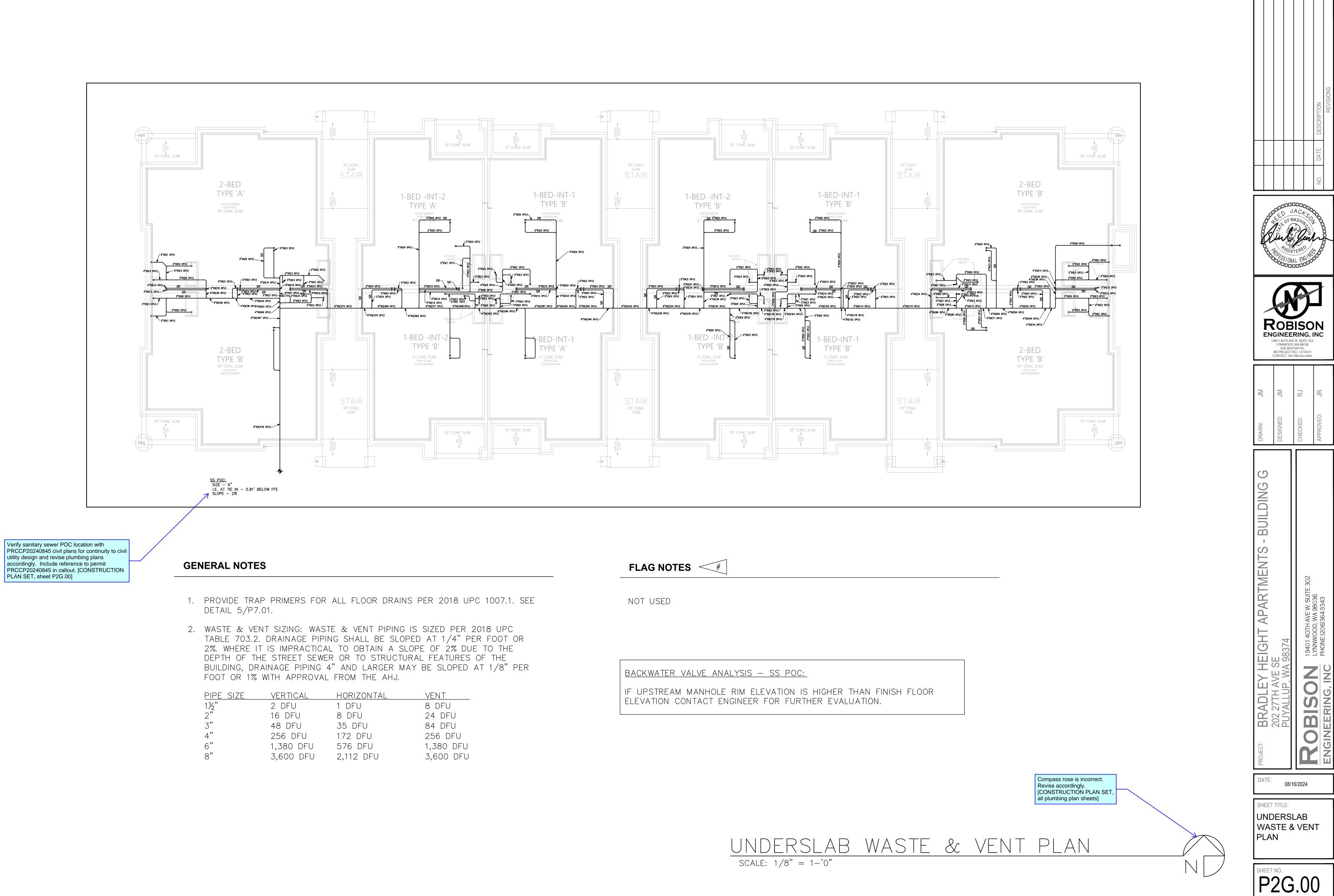
5. ALL DOMESTIC WATER EQUIPMENT SHALL BE NSF-61 LISTED.

				PANSION TAN	IN			
EQUIP	SERVICE	CAPACITY	PRE-CHARGE PRESSURE,	TANK	SIZE	OPERATING WEIGHT,	BASIS OF	NOTES
NO.	SERVICE	GAL.	PSI	DIAMETER	HEIGHT	LBS	DESIGN	NOTES
ET-1	DOMESTIC HOT WATER	4.5	50	11	15	9	THERM-X-TROL ST-12	1

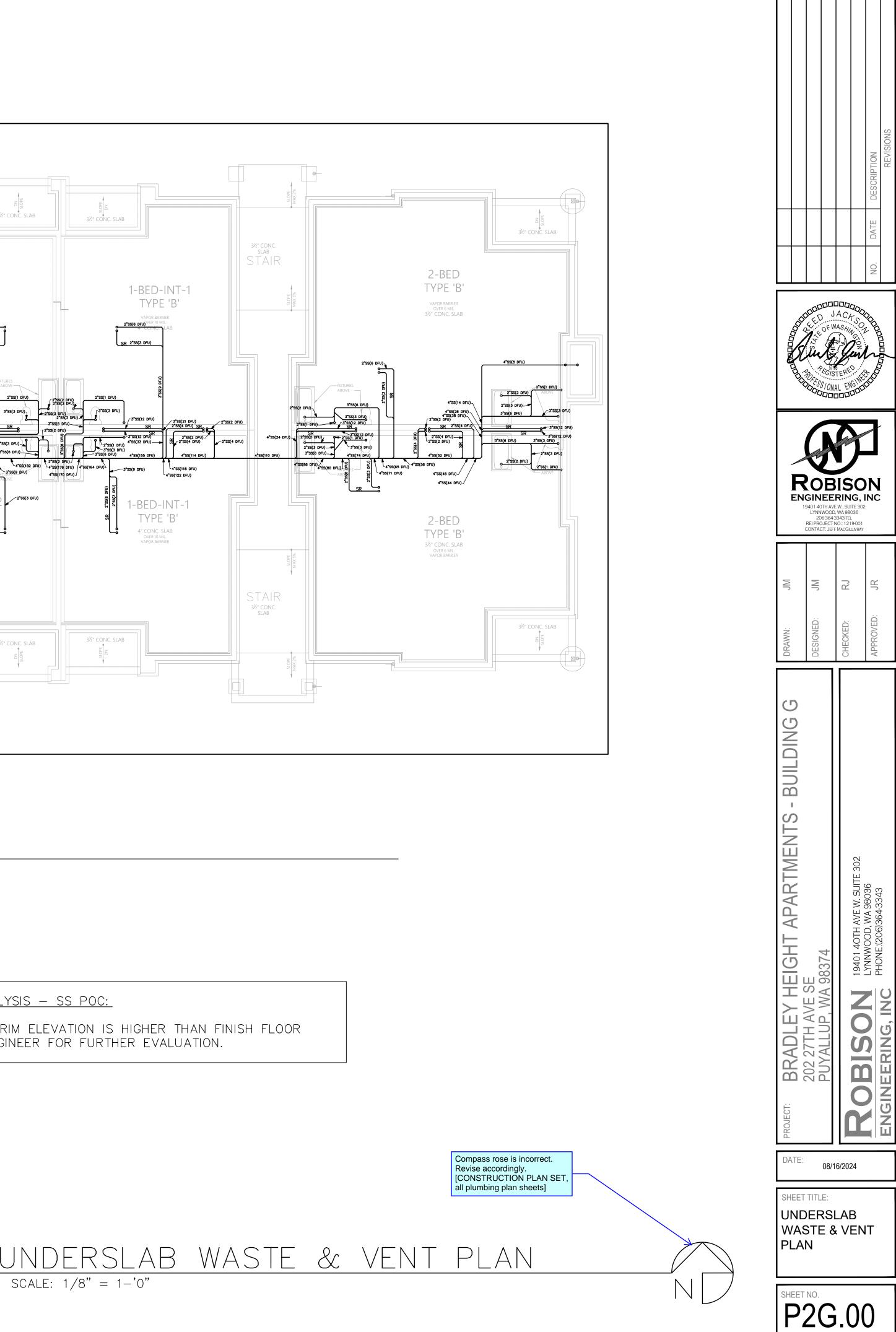
<u>NOTES:</u>

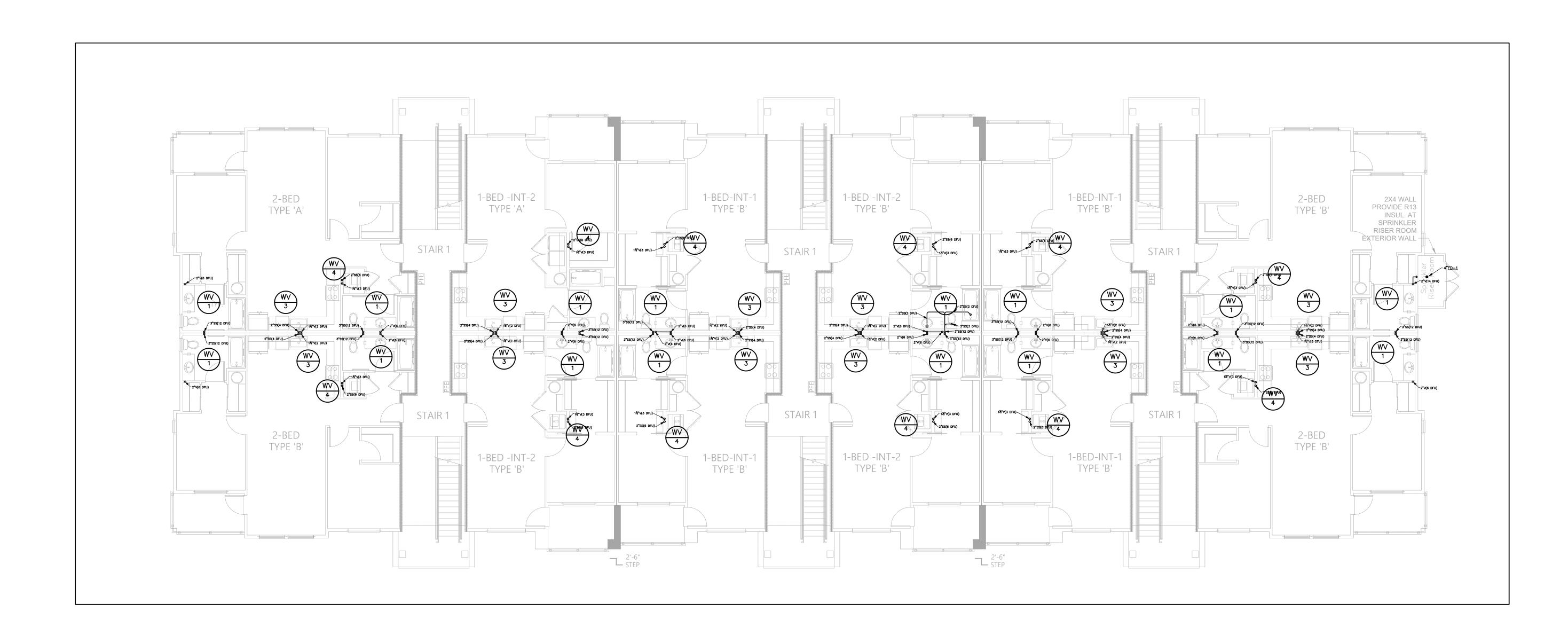
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS

INTERCEPTION OF THE RECEIPTION					NO. DATE DESCRIPTION	REVISIONS
PROFECT PROFECT PROFECT PROFECT POLICIAL PARTMENTS - BUILDING G 202 27TH AVE SE 202 27TH AVE SE 203 2	R EN		AL EN MAL			,
PROFILE RADLEY HEIGHT APARTMENTS - BUILDING G 202 27TH AVE SE 202 27TH AVE SE 203 27TH AVE SE	ML	WL	RJ): JR	
Process BRADLEY HEIGHT APARTMENTS - BUILDIN 202 27TH AVE SE 202 27TH AVE SE 20	DRAWN:	DESIGNED	CHECKED:		APPROVEL	
08/16/2024 SHEET TITLE: PLUMBING SCHEDULES		202 27 IH AVE SE PUYALLUP, WA 98374		19401 40TH AVE W. SUITE 302		
PLUMBING SCHEDULES	DATE:	08/*	16/202	24		
P0G.03	PLU	MBIN		S		



PIPE SIZE	VERTICAL	HORIZONTAL
11/2"	2 DFU	1 DFU
2"	16 DFU	8 DFU
3"	48 DFU	35 DFU
4"	256 DFU	172 DFU
6"	1,380 DFU	576 DFU
8"	3,600 DFU	2,112 DFU





- 1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS PER 2018 UPC 1007.1. SEE DETAIL 5/P7.01.
- 2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE IT IS IMPRACTICAL TO OBTAIN A SLOPE OF 2% DUE TO THE DEPTH OF THE STREET SEWER OR TO STRUCTURAL FEATURES OF THE BUILDING, DRAINAGE PIPING 4" AND LARGER MAY BE SLOPED AT 1/8" PER FOOT OR 1% WITH APPROVAL FROM THE AHJ.

PIPE SIZE	VERTICAL	HORIZONTAL
11/2"	2 DFU	1 DFU
2"	16 DFU	8 DFU
3"	48 DFU	35 DFU
4"	256 DFU	172 DFU
6"	1,380 DFU	576 DFU
8"	3,600 DFU	2,112 DFU

FLAG NOTES <#

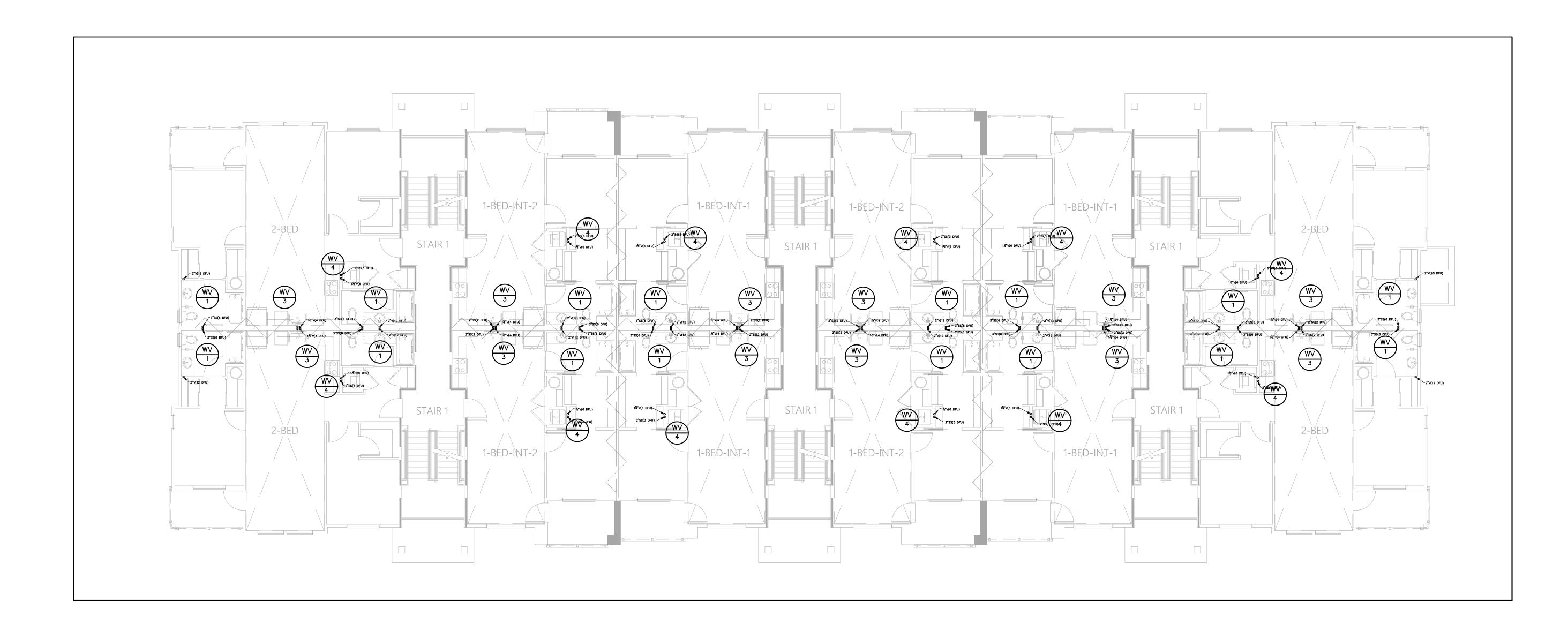
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VENT 8 DFU 24 DFU 84 DFU 256 DFU 1,380 DFU 3,600 DFU

> LEVEL 1 WASTE & VENT PLAN SCALE: 1/8" = 1-'0"



Indecision of the second data and the second d					NO. DATE DESCRIPTION	REVISIONS
PROFECT: BRADLEY HARTNAR BUILDING G 202 27TH AVE SE 202 27TH AVE SE 203 27TH AVE SE 204 27TH AVE SE 204 27TH AVE SE 204 27TH AVE SE 205 27TH AVE SE 205 27TH AVE SE 206 27TH AVE SE 206 27TH AVE SE 207 27TH AVE SE 20			AL EW AL EW BIS RING WA 980 3343 TEL NO.: 121			
PROLECT INTER SULLING G 202 27TH ALE BUILDING G 202 27TH ALE SULLING G 202	ML	D: JM	c. RJ			
PROFET INTER STATUS - BUILDING - BRADLEY HEIGHT APARTMENTS - BUILDING - 202 27TH AVE SE 202 27	DRAWN:	DESIGNE	CHECKE		APPROV	
DATE: 08/16/2024 SHEET TITLE: LEVEL 1 WASTE &	BRADLEY HEIGHT APARTMENTS - BUILDING	ZUZ Z/TH AVE SE PUYALLUP, WA 98374		19401 40TH AVE W. SUITE 302		
LEVEL 1 WASTE &	Ŀ	08/1	16/202	24		Щ
	_		\	S	ΓE	&



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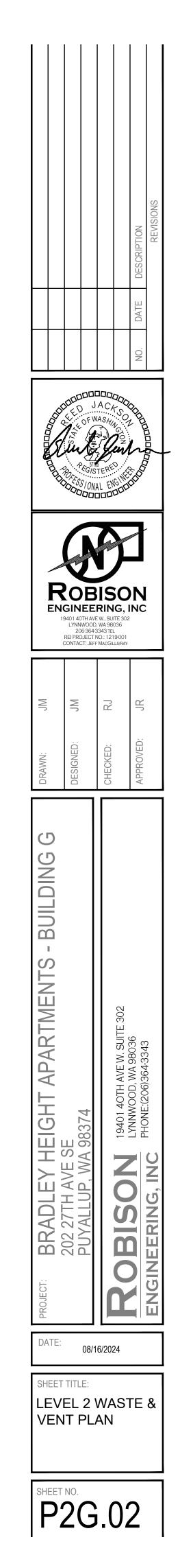
VERTICAL	HORIZONTAL
2 DFU	1 DFU
16 DFU	8 DFU
48 DFU	35 DFU
256 DFU	172 DFU
1,380 DFU	576 DFU
3,600 DFU	2,112 DFU
	2 DFU 16 DFU 48 DFU 256 DFU 1,380 DFU

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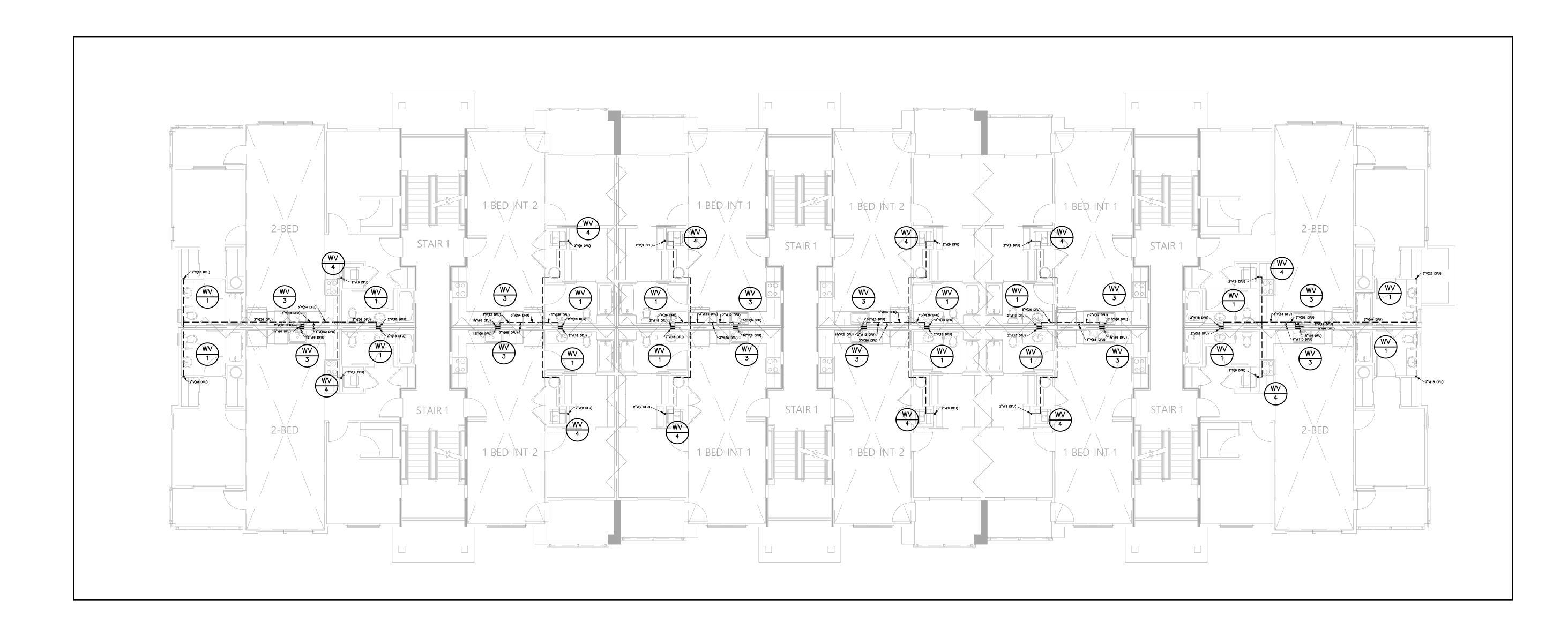
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VENT 8 DFU 24 DFU 84 DFU 256 DFU 1,380 DFU 3,600 DFU

> LEVEL 2 WASTE & VENT PLAN SCALE: 1/8" = 1-'0"



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- 2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE IT IS IMPRACTICAL TO OBTAIN A SLOPE OF 2% DUE TO THE DEPTH OF THE STREET SEWER OR TO STRUCTURAL FEATURES OF THE BUILDING, DRAINAGE PIPING 4" AND LARGER MAY BE SLOPED AT 1/8" PER FOOT OR 1% WITH APPROVAL FROM THE AHJ.

VERTICAL	HORIZONTAL
2 DFU	1 DFU
16 DFU	8 DFU
48 DFU	35 DFU
256 DFU	172 DFU
1,380 DFU	576 DFU
3,600 DFU	2,112 DFU
	2 DFU 16 DFU 48 DFU 256 DFU 1,380 DFU

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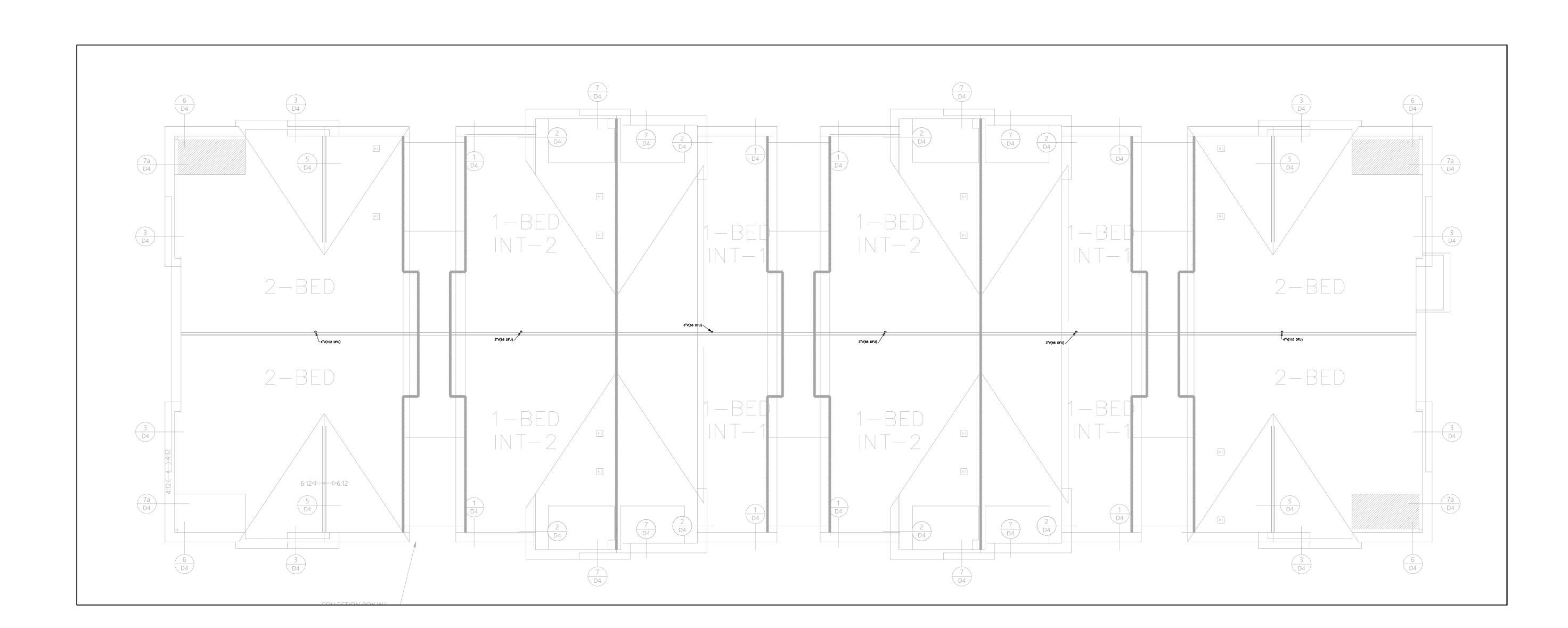
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VENT 8 DFU 24 DFU 84 DFU 256 DFU 1,380 DFU 3,600 DFU

> LEVEL 3 WASTE & VENT PLAN SCALE: 1/8" = 1-'0"



TARGET: BRADLEY HEIGHT APARTMENTS - BUILDING G 202 27TH ANE SE 202 27TH	ENGINE ENGINE BIGHL APARTNES State
Image: BRADLEY HEIGHT APARTMENTS - BUILDING G202 27TH AVE SE 202 27TH AVE SE PUYALLUP, WA 98374202 27TH AVE SE PUYALLUP, WA 98374DYALLUP, WA 98374Image: Puter SectorImage: Puter Sector	PROLECT: BRADLEY HEIGHT APARTNEN S BUILDING G 202 27TH AVE S 202 2
 BRADLEY HEIGHT APARTMENTS - BUILDING 202 27TH AVE SE 203 27TH AVE SE 203 27TH AVE SE 203 27TH AVE SE 203 27TH AV	PROJECT: BRADLEY HEIGHT APARTMENTS - BUILDING (202 27TH AVE SE 202 27TH AVE SE 202 27TH AVE SE 202 27TH AVE SE 202 27TH AVE SE PUYALUD, WA 98374 19401 40TH AVE W. SUITE 302 LYNWOOD, WA 98036 PHONE:(206)364-3343 PHONE:(206)364-3343
	DATE: 08/16/2024



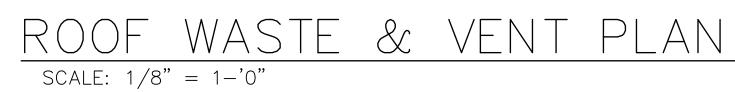
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PIPE SIZE	VERTICAL	HORIZONTAL		
11/2"	2 DFU	1 DFU		
2"	16 DFU	8 DFU		
3"	48 DFU	35 DFU		
4"	256 DFU	172 DFU		
6"	1,380 DFU	576 DFU		
8"	3,600 DFU	2,112 DFU		

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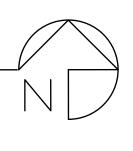
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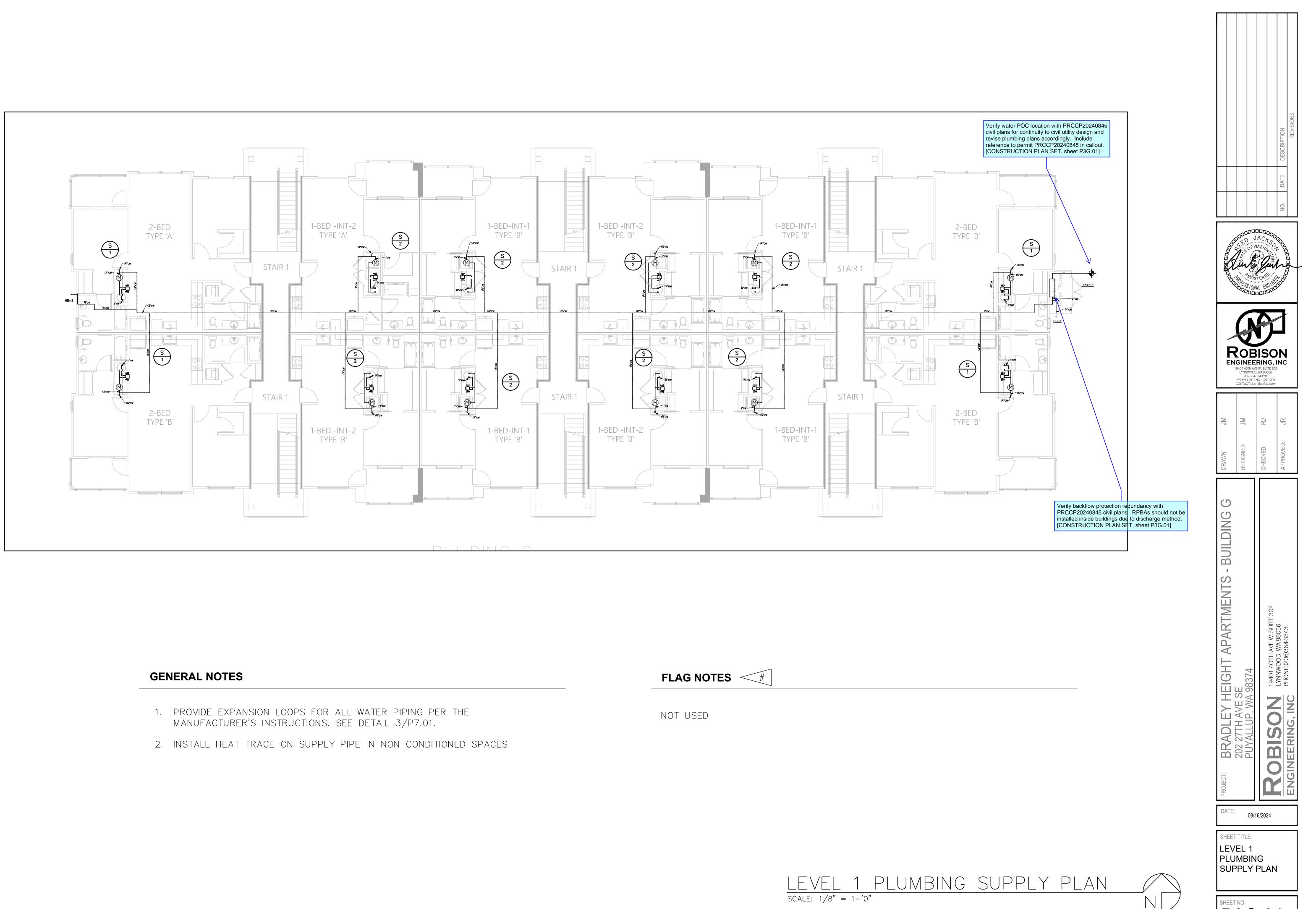
VENT 8 DFU 24 DFU 84 DFU 256 DFU 1,380 DFU 3,600 DFU

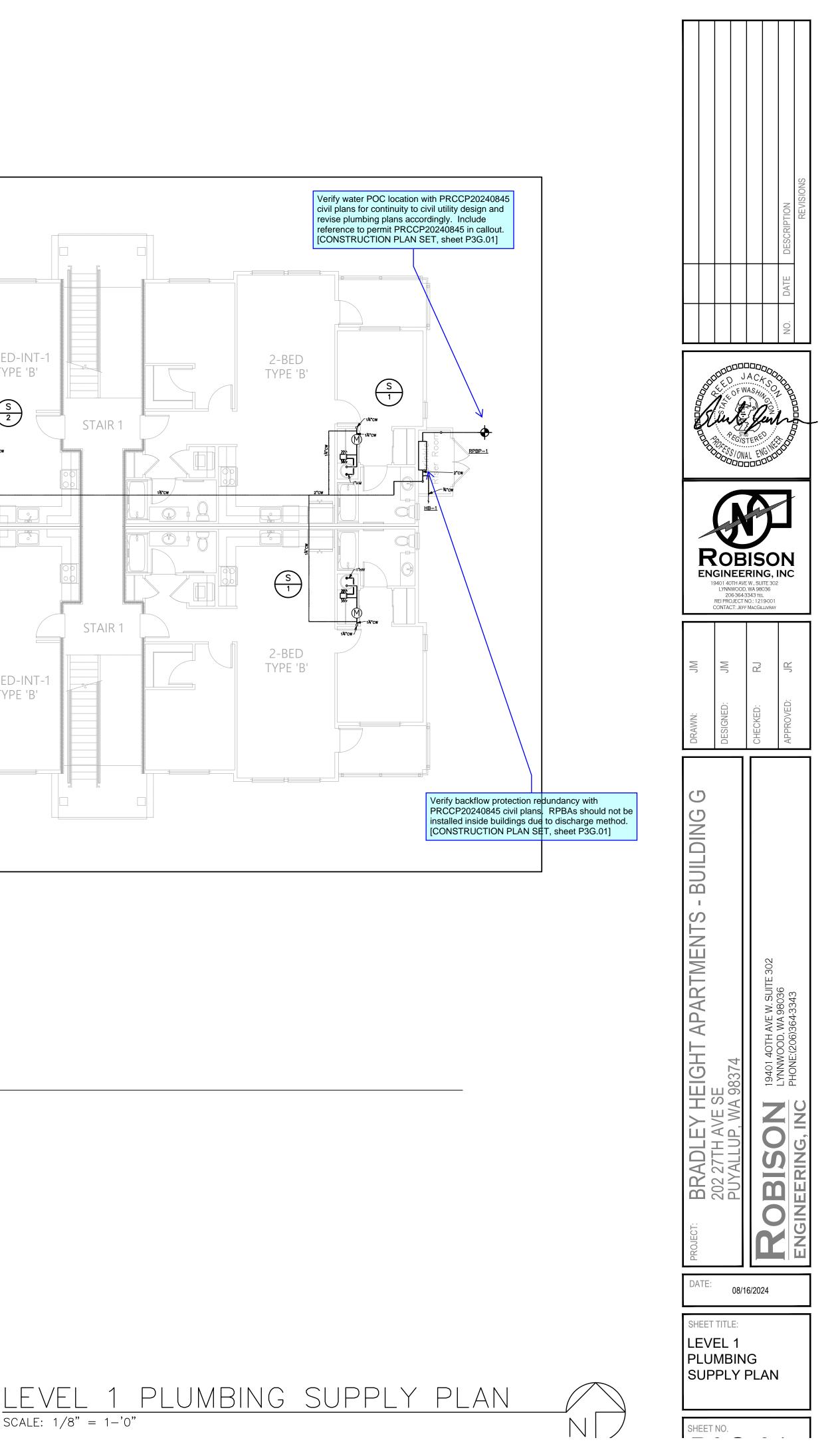


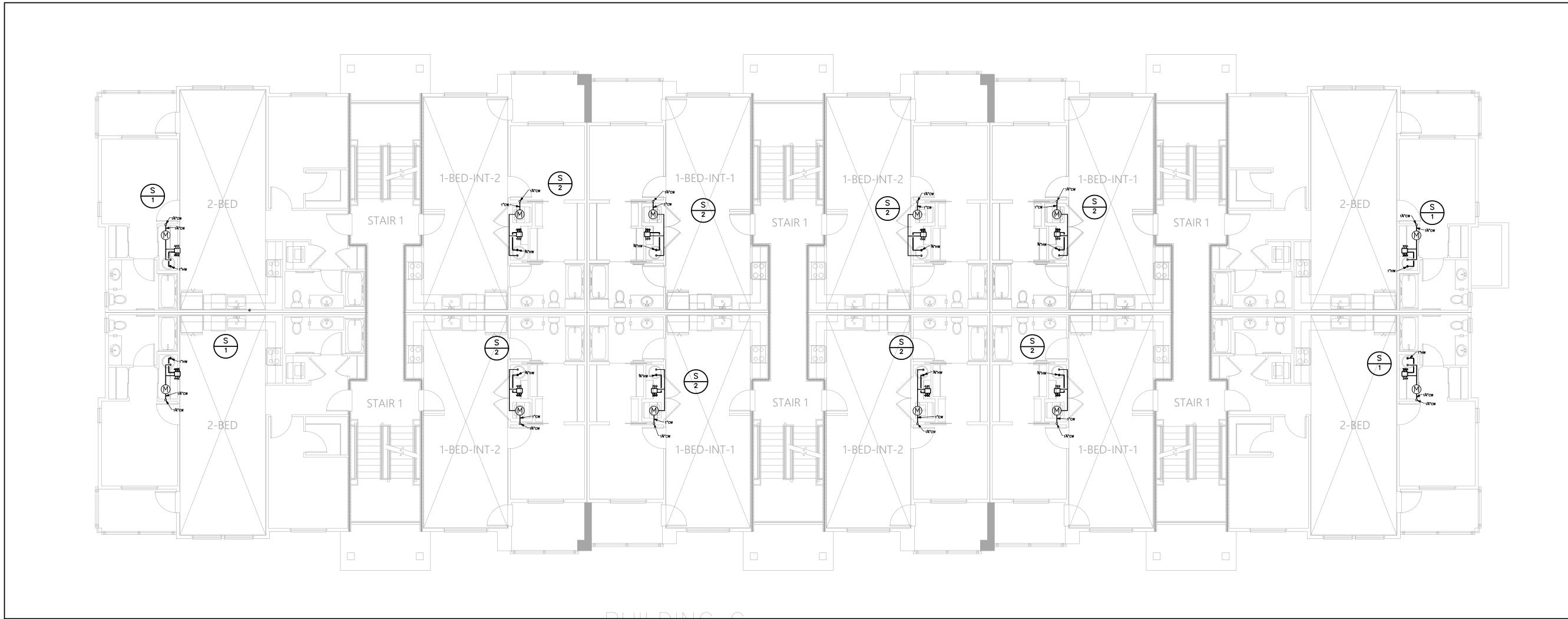
M ROBISON ENGINEERING, INC 19401 40TH AVE W., SUITE 302 LYNNWOOD, WA 98036 206-364-3343 TEL REI PROJECT NO: 1219001 CONTACT: JEFF MACGILLIVRAY MU NU LY . ED: **BUILDING G** I. APARTMENTS SUI 036 HEIGHT E SE Ζ BRADLEY 202 27TH M 0 BIS DATE 08/16/2024 SHEET TITLE: LEVEL 4 WASTE & VENT PLAN SHEET NO. **P2G.04**









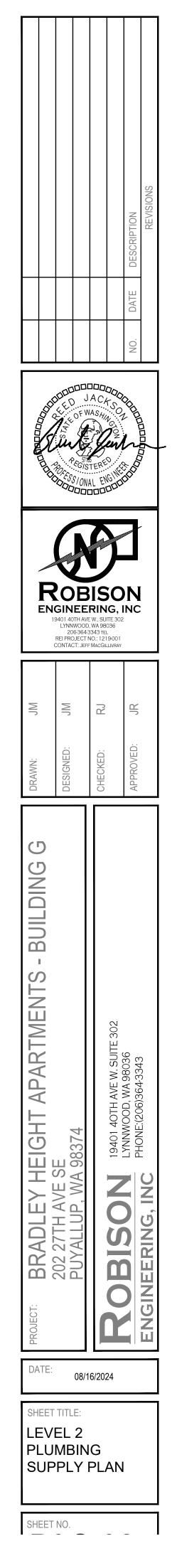


- PROVIDE EXPANSION LOOPS FOR ALL WATER PIPING PER THE MANUFACTURER'S INSTRUCTIONS. SEE DETAIL 3/P7.01.
- 2. INSTALL HEAT TRACE ON SUPPLY PIPE IN NON CONDITIONED SPACES.

FLAG NOTES <#

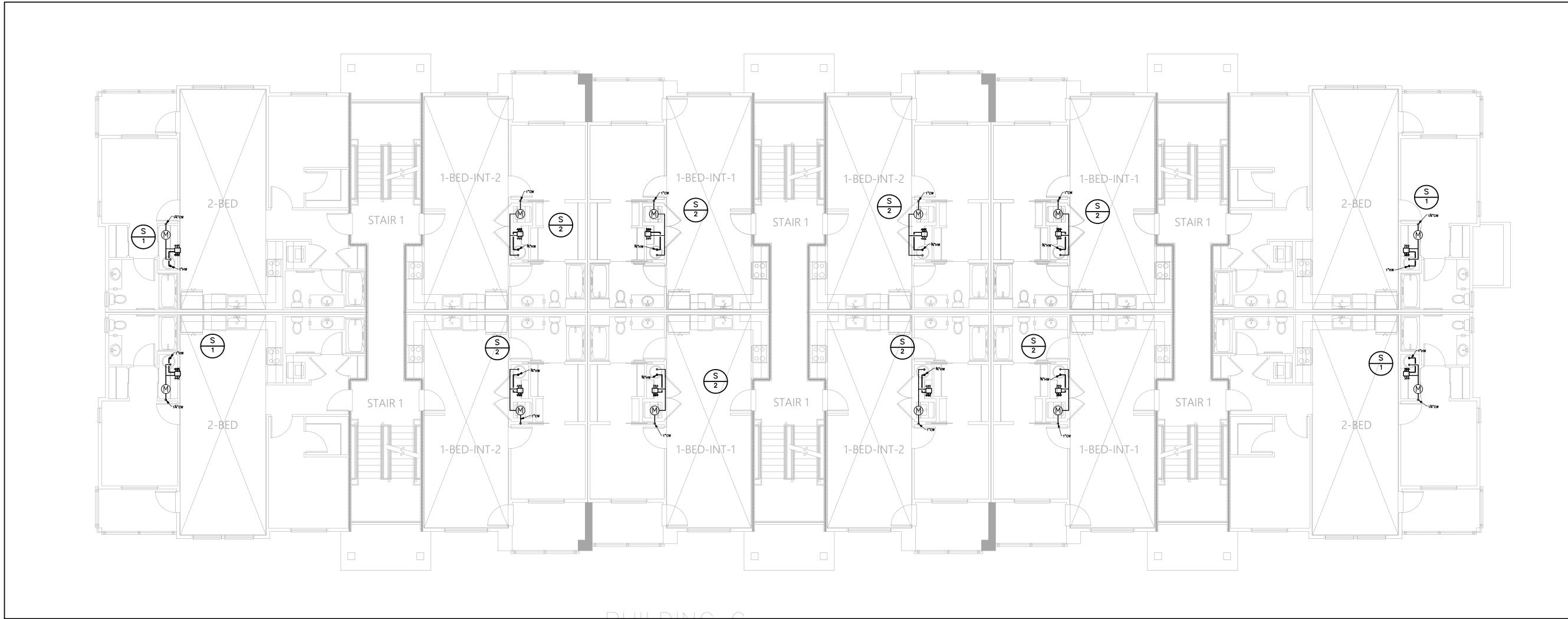
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LEVEL 2 PLUMBING SUPPLY PLAN



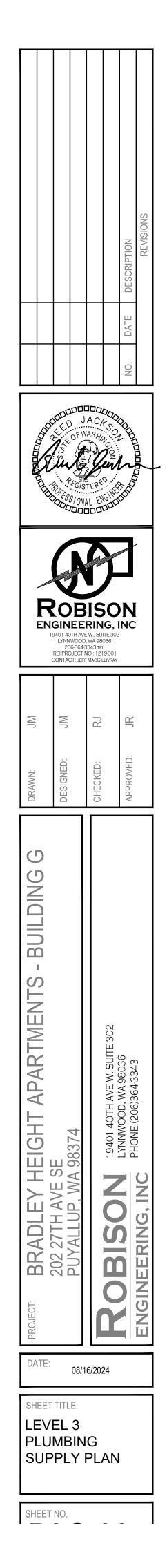


- PROVIDE EXPANSION LOOPS FOR ALL WATER PIPING PER THE MANUFACTURER'S INSTRUCTIONS. SEE DETAIL 3/P7.01.
- 2. INSTALL HEAT TRACE ON SUPPLY PIPE IN NON CONDITIONED SPACES.

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LEVEL 3 PLUMBING SUPPLY PLAN

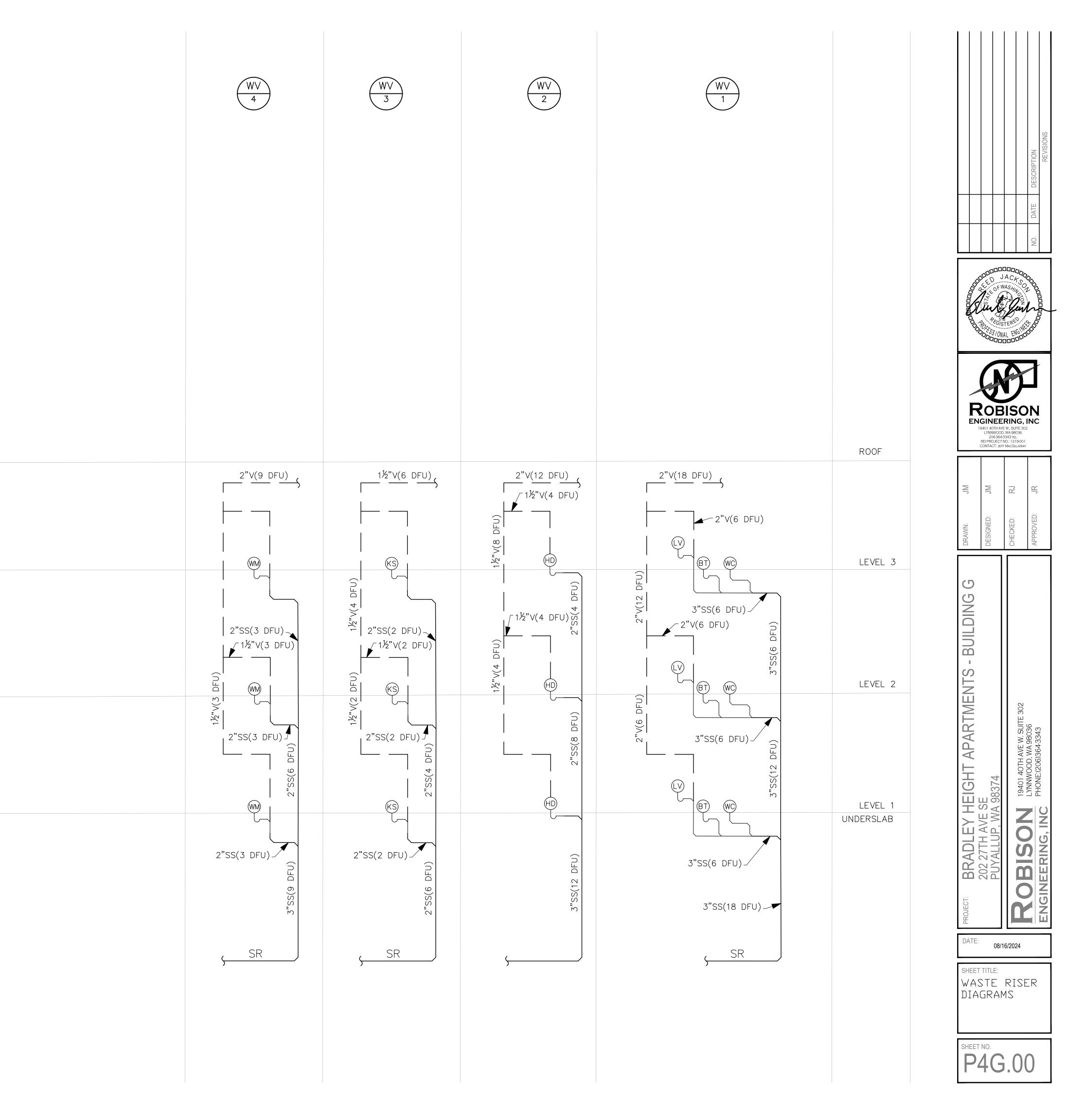
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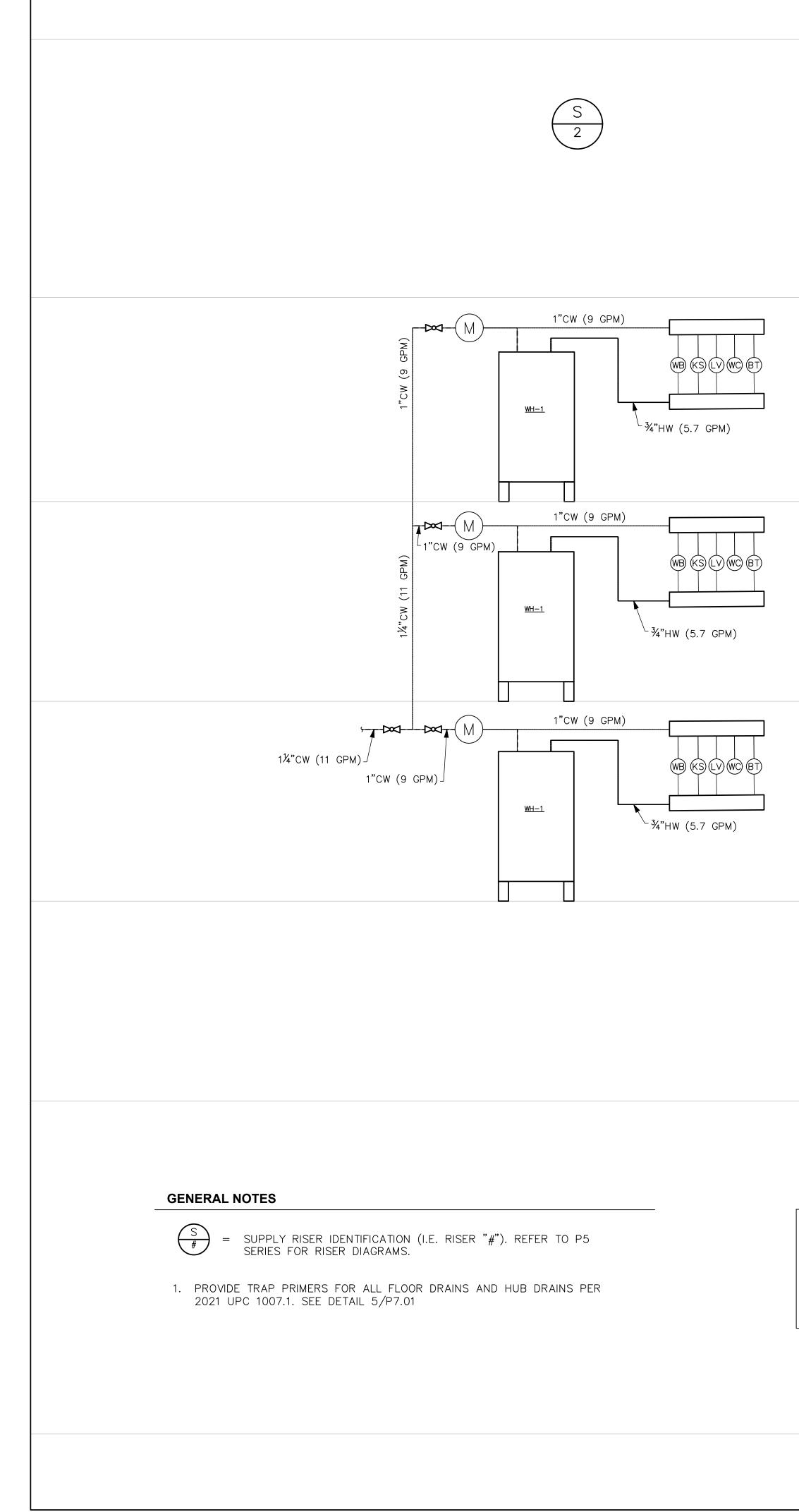
- = WASTE & VENT RISER IDENTIFICATION (I.E. RISER "#"). REFER TO P200 SERIES FOR RISER DIAGRAMS.
- 1. SUD RELIEF PIPING WITH LENGTH OF 8FT WILL BE USED.
- 2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE IT IS IMPRACTICAL TO OBTAIN A SLOPE OF 2% DUE TO THE DEPTH OF THE STREET SEWER OR TO STRUCTURAL FEATURES OF THE BUILDING, DRAINAGE PIPING 4" AND LARGER MAY BE SLOPED AT 1/8" PER FOOT OR 1% WITH APPROVAL FROM THE AHJ.

<u>PIPE SIZE</u>	VERTICAL	HORIZONTAL	VENT
1½"	2 DFU	1 DFU	8 DFU
2"	16 DFU	8 DFU	24 DFU
3"	48 DFU	35 DFU	84 DFU
4"	256 DFU	216 DFU	256 DFU
6"	1,380 DFU	720 DFU	1,380 DFU
8"	3,600 DFU	2,640 DFU	3,600 DFU

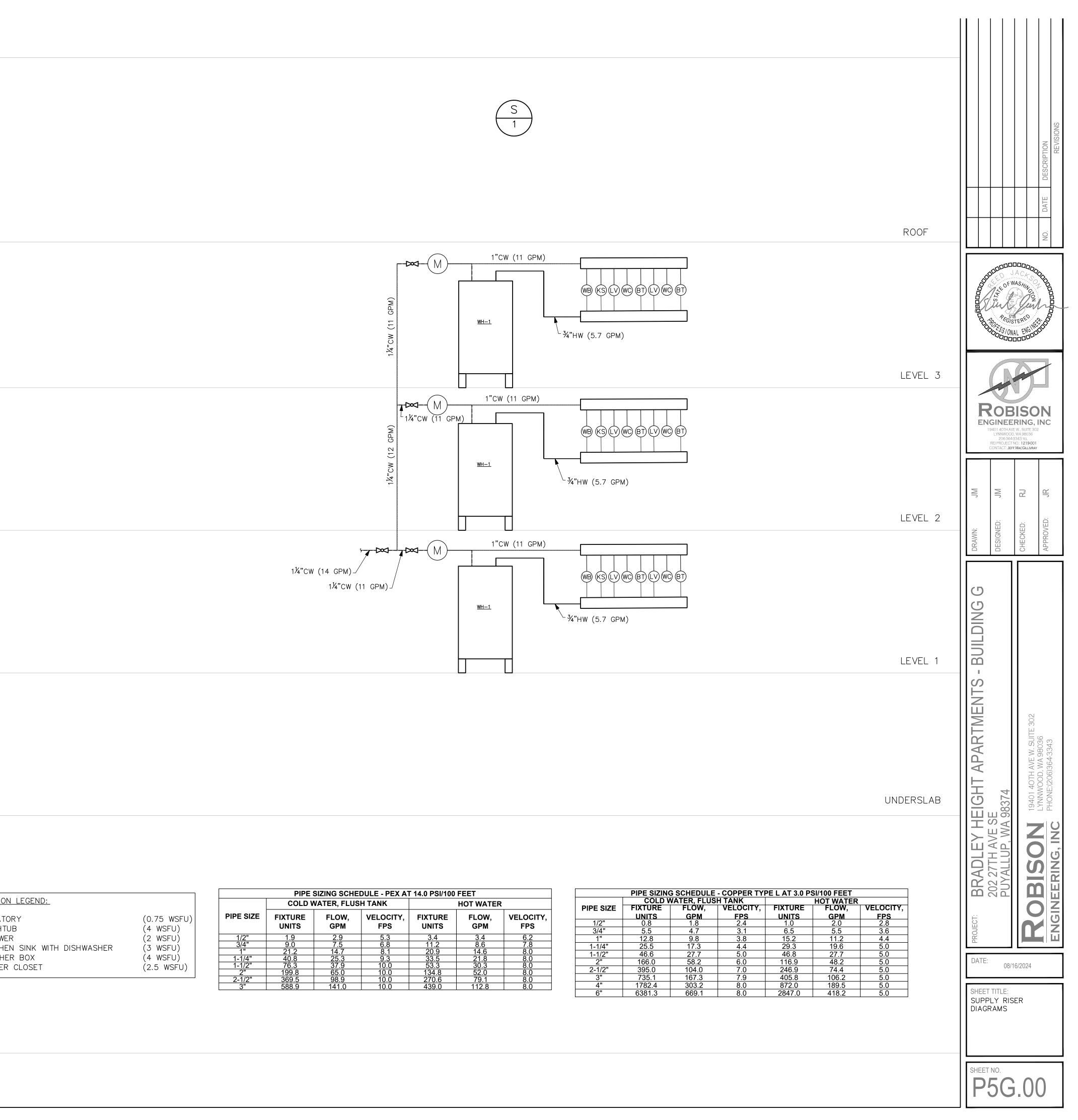
ABBREVIATION LEGEND:

LV = LAVATORY	(1 DFU)
BT = BATHTUB	(2 DFU)
SH = SHOWER	(2 DFU)
KS = KITCHEN SINK WITH DISHWASHER	(2 DFU)
WM = WASHING MACHINE	(3 DFU)
WC = WATER CLOSET	(3 DFU)
UR = URINAL	(2 DFU)
FD = FLOOR DRAIN	(2 DFU)
FS = FLOOR SINK	(4 DFU)
HD = HUB DRAIN	(4 DFU)

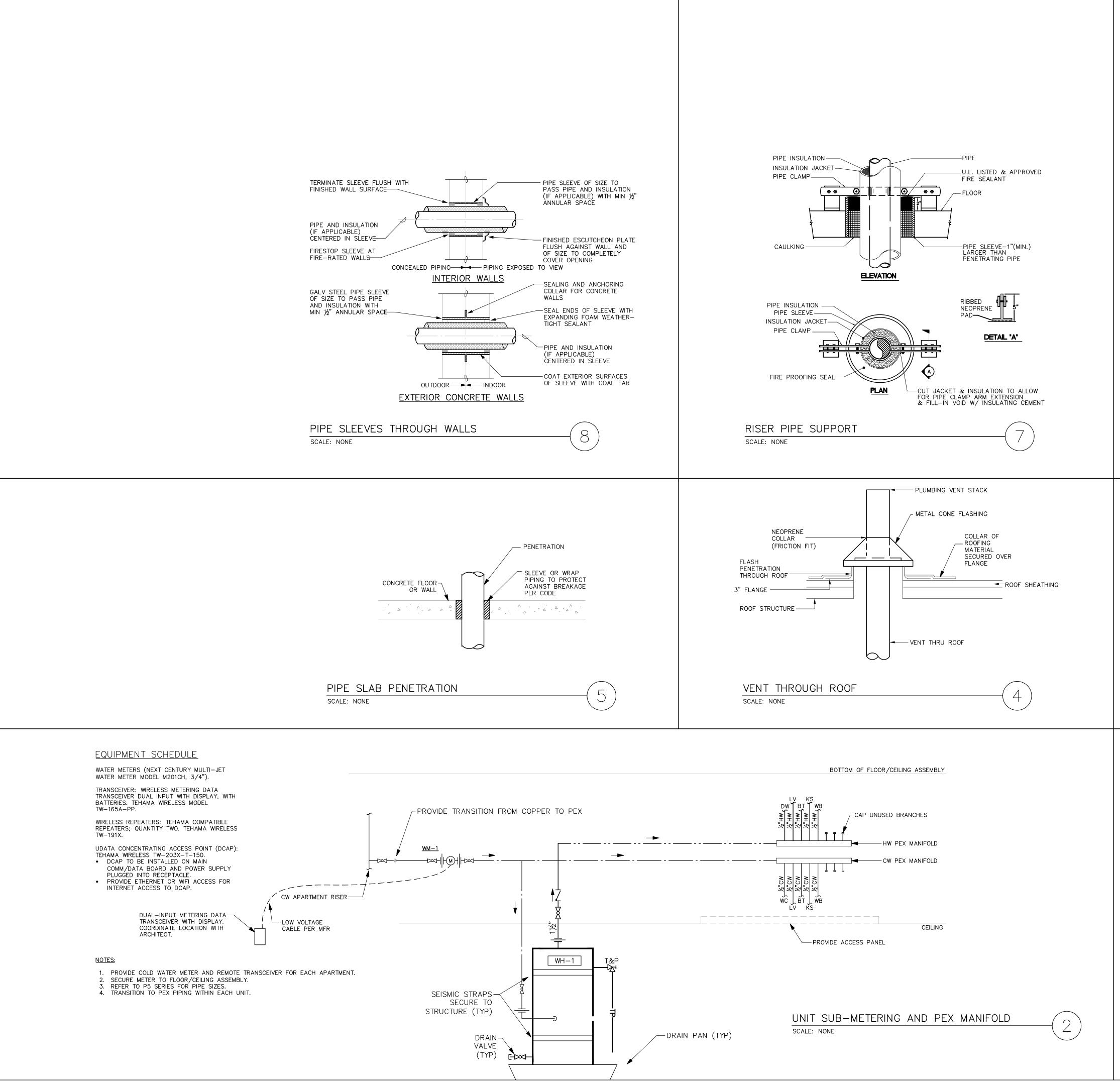


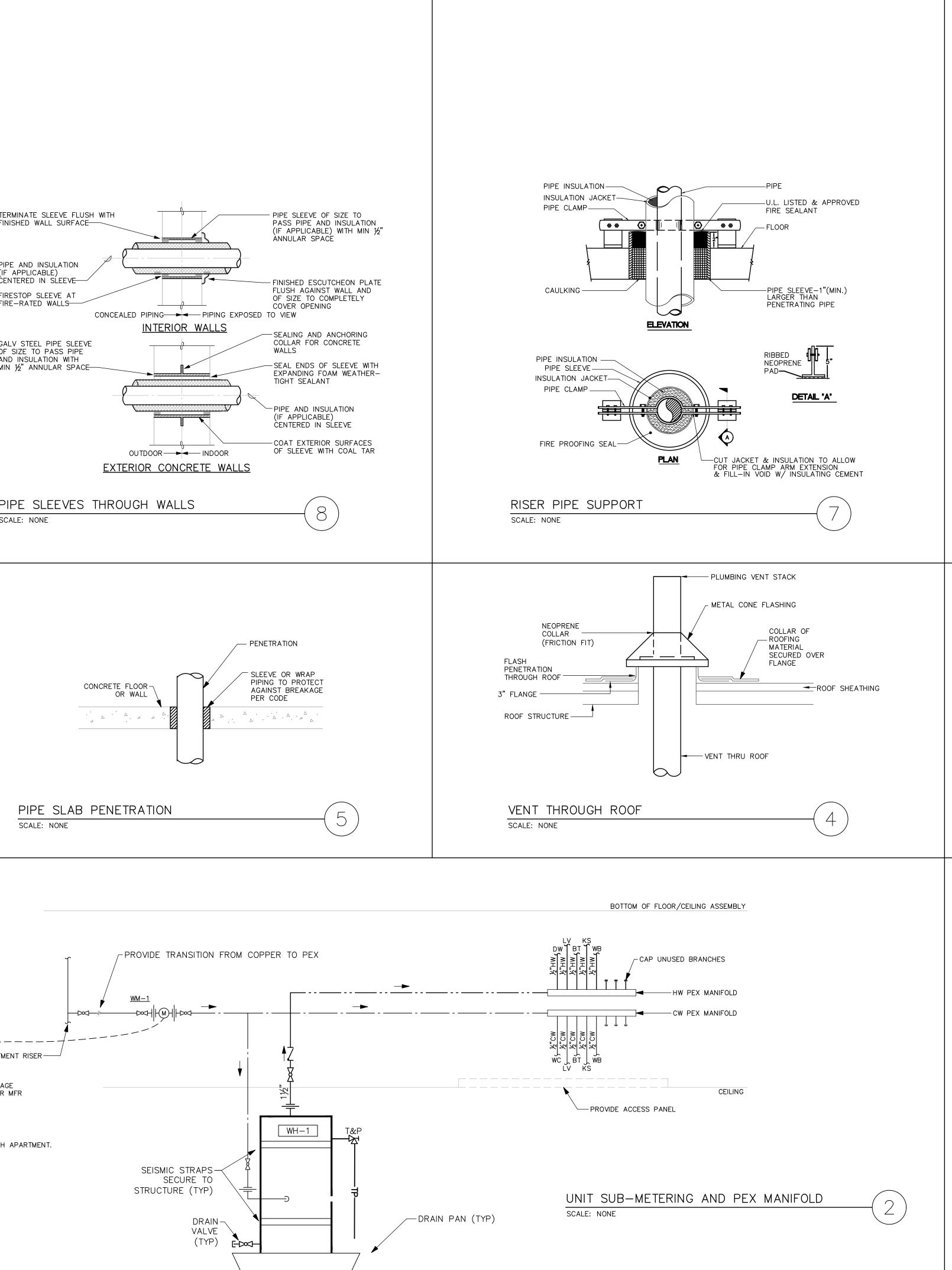


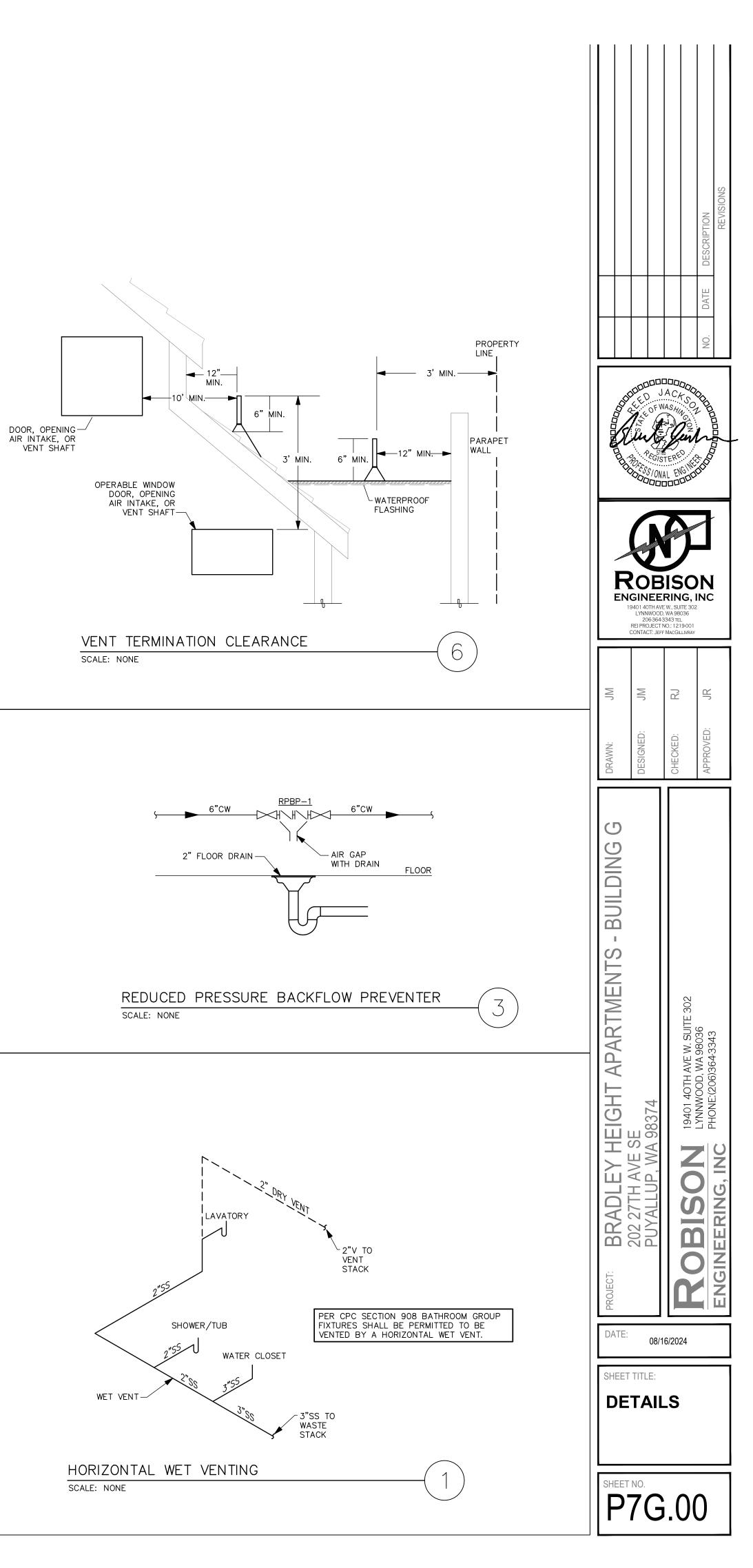
		PIPE SIZING SCHEDULE - PEX AT 14.0 PSI/100 FEET						
ABBREVIATION LEGEND:			COLD WATER, FLUSH TANK HOT WATER					
LV = LAVATORY BT = BATHTUB	(0.75 WSFU) (4 WSFU) (2 WSFU) (3 WSFU) (4 WSFU) (2.5 WSFU)	PIPE SIZE	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS
SH = SHOWER KS = KITCHEN SINK WITH DISHWASHER WB = WASHER BOX WC = WATER CLOSET		1/2"	1.9	2.9	5.3	3.4	3.4	6.2
		3/4"	9.0	7.5	6.8	11.2	8.6	7.8
		1"	21.2	14.7	8.1	20.9	14.6	8.0
		1-1/4"	40.8	25.3	9.3	33.5	21.8	8.0
		1-1/2"	76.3	37.9	10.0	53.3	30.3	8.0
		2"	199.8	65.0	10.0	134.8	52.0	8.0
		2-1/2"	369.5	98.9	10.0	270.6	79.1	8.0
		3"	588.9	141.0	10.0	439.0	112.8	8.0

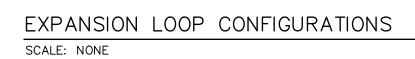


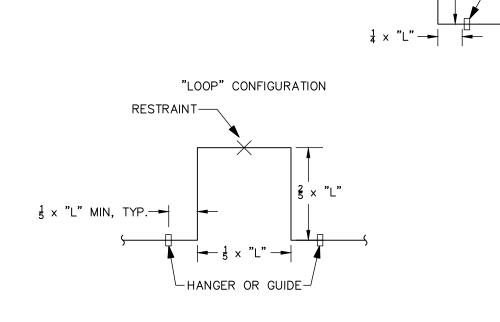










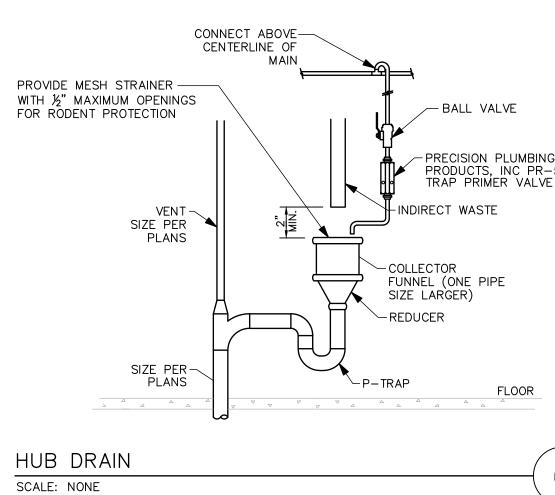


"OFFSET" CONFIGURATION

► + 1 × "|"

¼ × "L" ─►

hanger or guide –





← PRECISION PLUMBING PRODUCTS, INC PR-500 TRAP PRIMER VALVE

6

"CORNER" CONFIGURATION

"|" LONG RUN OF PIPE HANGER OR GUIDE-

3

